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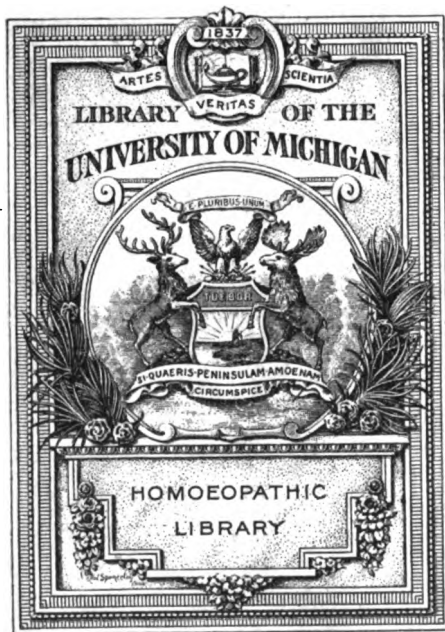
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SURGERY  
GYNECOLOGY  
AND OBSTETRICS

WM. FRANCIS HONAN, M.D., EDITOR  
GILBERT FITZ-PATRICK, M.D., ASSOCIATE EDITOR

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## THE TREATMENT OF SHOCK.

BY T. DRYSDALE BUCHANAN, M. D.

Authorities would seem to agree upon the manifestations of shock, such as a low state of blood pressure, rapid wiry pulse, pallor of the skin, cold sweat, livid mucous membranes, relaxed sphincters, and sub-normal temperature. To these the writer would add shallow respiration and partial or full dilatation of the pupils, depending upon the degree of shock.

Shock must not be confused with collapse. Shock pathologically is an acute arterial anemia and venous hyperemia of the brain caused by irritation of the sympathetic system. Collapse pathologically is an acute arterial and venous anemia of the brain caused by splanchnic paralysis or exhausting discharges (hemorrhage or others), with heart failure. Hemorrhage predisposes toward shock, therefore shock usually precedes or accompanies collapse.

The nature of the circulatory changes occurring in shock is the battle-ground of the experts. Geo. W. Crile claims after a series of experiments that irritation and stimulation of the sympathetic system result in an exhaustion of the vaso-motor center with consequent lowered blood pressure, while Eugene

Boise maintains that the lowered blood pressure is due not so much to vaso-motor exhaustion as to a tonic spasm of the heart wherein diastole is markedly decreased and systole is prolonged. This imperfect diastole prevents the engorged veins from emptying into the heart, thus preventing it from supplying the vessels.

As a proper understanding of the nature of shock is a prerequisite to the intelligent treatment, analysis of these opposing theories is essential.

On analyzing Crile's experiments we find that at autopsy all of his cases presented over-distended veins, the splanchnic no more than the somatic, almost empty arteries and the ventricles contracted and empty. Again, where the stellate ganglia had not been interfered with irritation of the skin, sciatic nerve, or intestines caused marked rise in blood pressure followed by marked fall. After removal of the stellate ganglia (the stellate controlling the heart) no change in blood pressure was manifested during this same irritation.

Boise, using Crile's own experiments to prove his contention, calls attention to these points: First, the distension of the somatic as well as the splanchnic veins; second, the heart being found empty and in systole, and third, with the stellate removed shock could not be produced.

W. T. Porter has shown by many experiments that exhaustion of the vaso-motor center cannot produce shock, while Rouget found that irritation of the vagus caused marked systolic contractions of the heart.

The following experiment by Boise is typical of the many and at this writing would seem to give him the best of the argument.

Experiment 1: Small rabbit, pulse 156, both hind legs crushed, pulse immediately ran up to 204 and was indistinct. Heartbeats easily felt and counted before injury, after injury they became indistinct and were counted with difficulty. The animal was then killed by a severe blow on the head. Heart found contracted and empty—it was punctured and no blood expelled.

Control rabbit killed suddenly, heart at once exposed and found full of blood. On puncturing it bled freely.

Having determined that shock is the result of irritation and over-stimulation of the sympathetic with probable cardiac

spasm, it is now the province of this paper to place before you the methods of combating the same.

No one here will dispute me when I say that the best treatment of shock is prophylaxis. Along the lines of prevention much can be done. First, in preparing the patient we should avoid depleting cathartics, trusting rather to an enema, nothing should be done to create fear upon the patient's part, and the time set for the operation strictly adhered to. Nothing disturbs a patient more mentally than having to wait for the surgeon.

In preparing the skin either before or during the anesthesia, chilling the body surface by watery solutions should be avoided. The dryer the preparation the less irritation to the nerves.

The anesthetist should be careful not to alarm the patient and should proceed as quickly as consistent with safety to get the patient asleep.

The operating room should be an even temperature and free from draughts. Most operating rooms are entirely too warm, from 78 to 80 is the proper temperature. The patient should not be too heavily draped, the hot room and excessive coverings tend to produce perspiration.

Full anesthesia is necessary for the first cut of the knife and the operation must be completed with all possible expedition. The less time and anesthetic used, the less nerve force and bodily heat are consumed with consequent lessening of the irritation to the sympathetic.

Chilling of the surface should be constantly guarded against. Profuse sweating therefore should be checked. It is my habit in cases where the patient is perspiring profusely to give hyperdermatically 1-200 gr. of atropine, which almost instantly checks the sweating.

Unnecessary manipulation of the intestines or other viscera and stretching the skin wound are especially to be avoided.

The anesthetist should endeavor to prevent vomiting and when the anesthetic is producing powerful stimulation of the heart 1-16 gr. of morphine hyperdermatically not only acts as a cardiac sedative, but reduces the amount of ether required.

Care should be taken throughout the operation to prevent fluids from spilling on the patient and the viscera should always be free from exposure.

Cases in which shock is anticipated hyperdermatically should have a preliminary saline enema as suggested by Dr. Dawbarn.

Well-developed cases of shock or collapse previous to operation do better under spinal anesthesia than under other anesthetics, as will be shown by the following case: W. McC. admitted to the Flower Hospital, April 19, suffering from shock and collapse due to compound fracture received in a trolley accident. Left leg mangled beyond any hope of saving it, and patient exsanguinated. Saline infusion 1500 cc. given and adnephren in 10 mm. doses every hour. Visited patient a few hours after admittance and found him still in profound collapse. On April 20, at 8 p. m., performed lumbar puncture, injecting a 2% cocaine solution in space between second and third lumbar vertebræ. Shortly after the injection, patient's leg was amputated without slightest pain. Operation was not followed by an increase in shock or collapse and at this writing the patient is making a good recovery.

To be sure, each one of the foregoing details in itself would do but little damage if neglected, yet taken in total, a strict observance of the same will save your patient much needless irritation of the sympathetic system, with greatly reduced chances of producing shock.

Shock, however, will sometimes manifest itself despite all our prophylaxis, necessitating prompt measures of relief. The active treatment should be directed toward raising blood pressure by restoring normal diastole and relieving the exaggerated systolic contractions of the heart.

The loss of bodily heat must be counteracted by means of artificial heat. Hot water bags, hot blankets, or the hot water mattress of Crile. This eliminates the nerve irritation of a cold surface.

To raise blood pressure Crile's pressure suit may be used, but in the opinion of those who have used it, it is clumsy and hard to adjust. Boise suggests that the rise in pressure following the use of this suit is due to a further filling of the veins, thus causing them to force some more blood into the auricles.

Intravenous saline infusion plays a prominent part in raising blood pressure in two ways, first, by increasing the heat, and secondly, by increasing the over-distention of the veins with this same forcing of the blood into the auricle. Thus, the systolic tetany is overcome and the heart receives its proper amount of blood to throw into the arteries, circulation is restored with consequent rise in pressure.

The writer believes that when we get a drug that will satisfactorily relieve this spasm of the heart, the use of the saline infusion will be unnecessary in the treatment of shock. Collapse, however, being due to a loss of fluids, is unquestionably benefited by the free use of the infusion.

Artificial respiration is used with benefit in shock, for according to Brewer the diaphragm has a piston action, drawing the blood from the veins and mechanically pouring it into the right auricle.

The drugs used in the treatment of shock are few in number. Previous to the advent of adrenalin, morphine was the mainstay. Its action is twofold, first, by partially anesthetizing the nerves it minimizes the irritation and stimulation of the sympathetic and, secondly, it is a cardiac sedative with relief of the cardiac spasm.

Adrenalin by contracting the capillaries raises the blood pressure. This contractile power when exercised upon the coronary arteries produces an anemia of the heart muscle with instant relaxation of the systolic contractions.

Veratrone (Parke, Davis & Co.) is a preparation of veratrum viride for hyperdermic use and acts as a powerful heart sedative. Boise, by a series of experiments, found that after injecting from 5 mms. to 1 cc. of veratrone it was next to impossible to produce shock. In another set of experiments after profound shock was produced, injections of veratrone produced instant rise of blood pressure. Another link in the chain of evidence that shock is not so much an exhaustion of the vaso-motor center as it is an imperfect diastole and an exaggerated systolic contraction.

Thus we see that the best treatment of shock is first and best, prophylaxis, secondly, raising blood pressure by relieving the spasmodic condition of the heart.

The writer is indebted to Dr. Eugene Boise of Grand Rapids for most of the information contained in this paper. "The Nature of Shock," in the American Journal of Obstetrics, and "Shock," both papers by Dr. Boise, are recommended to those of you who are interested in the subject.

210 West 57th Street.

## THE USE AND ABUSE OF FORCEPS.

BY GEO. H. EARL, M. D.

Obstetrical forceps have been in general use for a long time, and the indications for their use are rather definitely laid down in the text-books on the subject. At first and for nearly a hundred years kept secret, later the secret sold, for a consideration, their utility and help in difficult cases was disputed and questioned. Discussion was common, as to whether this secret method was really anything new, many contending that it was really some method of turning.

The instrument itself has been perfected, so that to-day it has probably reached the limit of development in the way of lightness and strength, and general adaptability, to the use for which it is intended.

With improvement in the instruments and the acquisition of greater skill there are some abuses. It is a fact which admits of very wide application, that the possession of arbitrary power by an individual, is apt to lead to the abuse of that power.

May this not be true of the forceps, in obstetrics, and thus account for these abuses? Having at hand a means of prompt delivery,—which in so many cases is actually a life-saving measure, we are tempted to make use of that power many times when positive indications are not present.

Before the use of forceps became general, the method of artificial delivery, where version was not possible, was by means of the hook, sharp or blunt, which necessarily meant the death of the child. The only other method of artificial delivery was version, and this operation was, of course, subject to the same limitations as to-day.

Some method of traction was sought for, and one of the ingenious plans, which seems never to have come into general use, was by means of a net, to be passed over the child's head, and then drawn tightly, when traction could be made.

In a book published in London in 1753, are many quaint and pointed sentences. The title of this little volume was, "A new and general system of Midwifery, by Brudenell Exton, M. D., Physician and Man Midwife to the Middlesex Hospital."

This book was written at a time when a knowledge of the "Chamberlain's secret" had become known and when some im-



provements had been made in the forceps. The use of the forceps had not become general, however, and Dr. Exton in discussing the new instrument, compares its use with his own practice of using his hands, partly as forceps, and partly as a vectis, at a time when modern forceps were unknown. He claimed that his hands occupied less space than the forceps. He writes as follows: "Mr. Chapman was also, I think, rather too fond of the use of the forceps, on account of his having made some improvements in that instrument; and notwithstanding those improvements, though with great care and caution, it might be used with safety, yet, on account of the largeness of it, could not be introduced without giving the patient considerable pain. Indeed the lessening of that instrument has rendered it much more commodious, and it may be used with greater ease to the patient. And I am of opinion, if there be an absolute necessity, that, as now improved, it is equal to any other invention."

"Mr. Chapman indeed asserts, that the method of Dr. Chamberlain, his father, and two brothers was the forceps. But if the Doctor's own account is to be credited, it is impossible it could be the forceps, because he applied it to cases where no instrument can be used, and he himself calls it a manual operation.

"If indeed there was anything extraordinary in their practice, I think it must rather be the method of turning children, and bringing them by the feet, which was at that time not so much known; but the barbarous custom of drawing out living children with the Crotchet, was then the general practice, which it is hoped is now entirely laid aside.

"If deliveries can be performed by the hand, without the use of the instruments, it is much the safest. The only case where the forceps can be used, is when the head of the infant lies very low in the vagina, and sticks there. For many years I made use of the forceps, but for some time past I have delivered with my hands alone, by forcing back with one of them the os coccygis, and bringing down the head; and when that is brought very low, to apply the other hand upon the head and press that gently down, in the manner which I have in the body of this book more fully directed.

"This method is also recommended by Daventer, and Dr. Heister. Since which I have not once had occasion to make

the use of this instrument; and am entirely of opinion that this method will generally succeed, if the woman be not kept too long before the operator is sent for."

It is seen by this quotation that the status of forceps was at that time still undecided.

It is usually stated, in the text-books, and rather generally taught, that the forceps acts in three ways.

1—As a tractor.

2—As a rotator.

3—As a lever.

4—Sometimes as a compressor.

It is right here that the mistake is made, which leads to some of the abuses which it is the object of this paper to point out.

The forceps is a tractor and should be used as a tractor only. The instrument was invented for the purpose of furnishing some means of making traction which would not destroy the child. Every improvement in the instrument has been designed to add to its efficiency as a tractor. Nothing has been done to make it a better rotator, or lever, or compressor.

A certain amount of compression is unavoidable in the use of the instrument as a tractor. But the compression should be only sufficient to keep the instrument in place, and should be exerted only during the time that traction is being made.

The plan of placing a folded towel between the handles is supposed to avoid too great compression of the head, and shows the fear of this compression doing harm. The arrangement of a screw in the end of the handle to limit the approximation of the handles during traction, is for the same purpose. Both are faulty, and constitute abuse. During traction if it is properly made, the force is gradually increased, held a moment, and then gradually lessened; the amount of compression must vary to correspond, and this cannot be done if the devices just referred to are used.

With the axis traction forceps, this matter of graduating the compression must not be sacrificed, and sufficient compression made before beginning to pull to prevent slipping during the entire time. But the locking screw must be frequently loosened between tractions. To neglect to do so is an abuse which is almost certain to sacrifice the child.

To use the forceps as a rotator is always an error, and an abuse, and is liable to do harm to mother and child. A head

which can be rotated in that way, without injury to mother or child, is better let alone or may be rotated manually.

The only way in which the instrument can be properly used to promote rotation, is by correcting an extension of the head, as, for instance, in a persistent occiput posterior position.

Its use as a lever is even worse than as a rotator; the pendulum motion with the forceps is an abuse. Even so-called modified pendulum action, by pulling down first on one side then on the other, is unnecessary, if axis traction is used in a difficult case.

Among other abuses may be mentioned the use of forceps in cases in which the disproportion between head and pelvis is so great that the necessary compression and molding to extract the head results fatally for the child.

To apply forceps in a delayed labor, with the child in good condition, and deliver a stillborn child, or one which dies within a few hours, because of pressure on the head, is an error.

*Rapid* molding of the head, and compression exerted in any but the transverse diameter of the head, constitute the chief menaces to the child in forceps deliveries. This is why high forceps is more serious than low, partly because of greater likelihood of grasping the head more or less antero-posteriorly.

It is in these cases, and when the head is too firmly ossified, that we should oftener do a symphysiotomy or pubotomy.

Probably one of the most frequent abuses is the application of too great force in traction. We hear of men bracing their feet and pulling with both hands, and often pulling until exhausted, and then asking to be relieved. Why is this? Why should a woman in labor be subjected to such brutal treatment? Is it perhaps because, having become accustomed to see her go through such ordeals and survive, and knowing labor to be physiological function, we forget with what vulnerable and vital tissues we are dealing? A rule that an operator should never supply more force than he can comfortably exert with one arm, and that efforts at advancing the head should be limited to half an hour, would not be wholly bad.

How many of us have heard of efforts continued through two and three hours and no advance made. The use of forceps without definite indications, simply to save the doctor's time, is an abuse which surely need only be mentioned to be condemned.

An abuse which is not peculiar to forceps may be mentioned here, and that is the undue and unnecessary exposure of the woman during the operation. In any other operative procedures, we use considerable care to have the room at proper temperature, and the patient kept covered.

Too great haste in completing delivery may constitute an error, i.e., the head may have been resting on the perineum a long time, the pains continuing at regular intervals, and fairly good character. The forceps on, it is found that very little traction in addition to the pains will bring the head through. Then we are apt not to delay long enough to stretch the perineum. We are apt to forget the great importance of a rest between pains.

Along the same line is the matter of taking sufficient time to complete the molding, when the head is arrested at the brain. We must sometimes spend considerable time in making intermittent tractions, before the slightest advance of the head.

It is also an abuse to apply forceps solely on a time indication. The rule to apply forceps at the expiration of a given time after the beginning of the second stage, or after the head reaches the perineum, has no justification whatever. The use of any force in the introduction of the blades or in locking is of course wrong, and also the use of sudden, jerky movements in extraction, and the least attempt at leverage either laterally or antero-posteriorly.

To apply forceps without making a positive diagnosis of the position of the head is an abuse which sometimes leads to embarrassing and even grave results. It makes quite a difference whether the occiput is anterior or posterior. In this connection too, pelvimetry is of great importance, and we should always avail ourselves of the assistance afforded by a knowledge of the size and character of the pelvis with which we are dealing. As a rule, version is preferable to forceps in a simple flat pelvis.

When the head is arrested at the brim, assistance should be with some form of axis traction instrument. With the ordinary forceps it is not only impossible to pull in the direction of the axis of the inlet, but the arbitrary control of flexion and rotation is a hindrance. With the axis traction forceps, the direction is not only much better, but the head is free to adapt itself to the canal as far as flexion and rotation are con-

cerned, and so more readily and safely molds, and mother and child suffer less bruising and danger of other injuries.

The general indications for forceps may perhaps be stated as follows:

1—Labor arrested or unduly prolonged, because of slight disproportion between head and pelvis; or, because of weak and inefficient pains.

2—Because of undue resistance of the pelvic floor.

These conditions are usually accompanied by one or more of the following specific indications for forceps:

1—Continuous pains.

2—Failure of head to recede between the pains.

3—Large or rapidly increasing caput.

4—Perhaps rise in temperature and pulse.

5—Later, swelling of the vulvæ.

Conditions favorable for the application of forceps:

1—No great disproportion between head and pelvis.

2—Os dilated or dilatable.

3—Child not too exhausted by long labor.

4—No malpresentation.

5—Head engaged.

6—Living child.

A distinction which students often find it hard to make, is that between indications for immediate delivery and forceps; but it is a distinction which is of the utmost importance in actual practice.

For instance, to apply forceps because the child's heart sounds are getting weak, after a long labor, with no other indications, is very apt to result in the loss of the child; whereas a version followed by a prompt breech extraction might save it.

Forceps in a general way are called for when the maternal forces fall just short of being able to complete the labor within a safe time. And version is reserved for cases of flat pelvis, where the head fails to engage and also those emergencies where rapid delivery is called for in the interests of mother or child or both. As, for instance, hemorrhage, eclampsia, prolapse of cord, etc.

The use of forceps is a conservative operation, and practically never needs to be done hurriedly, the only exception being, perhaps, an aftercoming head.

## MODERN OBSTETRICS.\*

BY FLORENCE N. WARD, M. D.

Modern obstetrics stands to-day pre-eminently one of the foremost branches of medicine. Although ranking with surgery as the oldest of medical arts, back to the dawn of civilization when women in labor received the attendance of their neighbors, services are crude as the surgery accorded by the primitive warrior to his wounds; yet notwithstanding such ancient origin, obstetrics remained for many hundred years without appreciative progress, even the correct methods of the intuitive period or natural obstetrics were lost in the superstitions of the religious epoch that followed.

For two thousand years from the time of the Hippocrates in the fourth century before Christ to the revival of learning in the middle of the sixteenth century, not a single advance was made. Progress was impossible while the practice of midwifery remained in the hands of midwives, women oftentimes of the lowest caste and densest ignorance.

With the revival of learning in the sixteenth century, the development of anatomical studies, podalic version, and the use of forceps was inaugurated a new era in obstetrics; but it was not until Semmelweis in 1847 called the attention of the profession to the true nature of puerperal fever, that for the first time advance was made. This was the beginning of the brilliant achievements that have contributed to and culminated in the present glorious epoch in the art and science of obstetrics, well named by Barton Cook Hirst as the "Period of Perfection," a fitting epoch coincident with the present scientific age as well as the exalted position of women.

Not only have we the heritage of all that has been accomplished in our own special branch, the perfect Cesarean section, the axis-traction forceps, the Porro operation, symphysiotomy, the development of pelvimetry and an aseptic technique, notwithstanding all these advances and many more, obstetrics is greatly indebted to almost every other branch of medicine for its present position. Surgery, particularly abdominal, has opened wide for inspection the living processes within the peri-

\* Presidential address of the Obstetrical Society, American Institute of Homeopathy, Jamestown Exposition, June, 1907.

toneal cavity, chloroform has come to mitigate the pangs of labor, bacteriology has disclosed the true nature of the infections of the puerperium, while laboratory research is concerned with the problems of the various toxemias.

Thus has the domain of obstetrics been enlarged, its currents of scientific thought deepened until it has attained that position of dignity commensurate with its task, namely the care of woman in her supreme function, in the height of her greatest physiological act, the sheltering and giving birth to her offspring,—and also to the inauguration of the life processes of an independent human being.

The chief characteristic of this period may be considered as the study of the *natural processes*, the knowing well of the physiology of the pregnancy and labor as well as the puerperium. After devious wanderings and much meddlesome interference, as we have learned to place at their true value Nature's own processes and how, if undisturbed by any abnormality, she works to more perfect results than can be attained by any artificial process. What repaired perineum is ever quite as perfect as an untorn one? By a careful study of the physiological processes any deviation from normal is quickly noted and measures at once instituted to control it. It is essentially an era of *prevention*. Eliminative processes are closely watched to prevent the dreaded eclampsia; position and presentation of the child are accurately outlined before labor sets in, as well as the size and shape of the maternal pelvis, the resistance of the soft parts, the vital powers of the mother; each factor is carefully weighed in its relation to labor and if found abnormal, measures are instituted to correct it. If a disproportion exists between the fetal head and the maternal pelvis, labor is inaugurated before full term. Elective Cesarean section if obstruction exists or a version if a mal-presentation is encountered. It is regarded as a reflection upon the intelligent care of the obstetrician to permit a woman to enter upon labor with an abnormality unrecognized and uncorrected. Nowhere does Shakespeare's,

"If it were well done, when 'tis done, then 'twere well  
It were done quickly"

apply with greater force than here.

Though fully aware of the advance and perfections of modern obstetrics, there yet remain many things to be considered

and improved if the future is to show the same degree of progress as the past.

One matter in relation to obstetric teaching that should come before this Society, is the teaching in our colleges relative to pelvic and cranial measurements. Owing to the discrepancies existing in the different text-books on obstetrics and the hardships entailed, by reason of these different teachings, upon applicants coming up for public medical examinations either in the state examinations or for entrance to the U. S. Army or Navy or the Marine Hospital Service, the American Gynecological Society in its session of 1905, in order to secure uniformity in pelvic and cranial measurements, adopted the following report as a compromise between the varying figures given by recent text-books.

The committee appointed for the work arranged the measurements in the English and metric systems without resorting to diminutive fractions and endeavored to carefully preserve the relative dimensions of the head and pelvis requisite for the normal mechanism of labor.

I would suggest a similar action be taken in our Society in behalf of our colleges for the adoption of a standard head and pelvis measurement for teaching purposes, either adopting the following report or its modification.\*

\* Full report—Am. Gyn. Soc. Trans., 1905.

#### EXTERNAL MEASUREMENTS OF THE PELVIS.

	INCHES.	CMS.
Intercrystal (between the most widely divergent points of the iliac crests).....	11.00	28.00
Interspinous (between outer lips of the two anterior superior spinous processes) .....	10.25	26.00
External conjugate (Baudelocque's from top of the symphysis pubis to the depression below the spinous process of the last lumbar vertebra) .....	8.00	20.50
External oblique (from the anterior superior spinous process on one side to the posterior superior spinous process on the other). .....	8.75	22.50
Bitrochanteric (between the trochanters) .....	13.00	32.00

#### MEASUREMENTS OF THE PELVIC BRIM.

Conjugata vera (between the middle of the sacral promontory and the point in the upper border of the symphysis pubis crossed by the linea terminales) .....	4.25	11.00
Conjugata diagonalis (between the middle of the promontory of the sacrum and the lower border of the symphysis pubis) .....	5.00	13.00



Transversa (between the most distant points in the right and left iliopectineal lines) .....	5.25	13.50
Diagonales (obliques, between the sacro-iliac synchondrosis of one side and the pectineal eminence of the other) .....	5.00	12.75
For full report see the American Gynecological Society Transactions, 1905.		

MEASUREMENTS OF THE PELVIC OUTLET (INFERIOR STRAIT).

Anterior posterior (coccyx to the tip of the coccyx to the lower end of the symphysis pubis). (The smaller figures are before, the larger after pushing back the coccyx.) .....	3.75-4.25	9.00-11.00
Transverse (between the inner surfaces of the tuberosities of the ischium) (bischiadic)..	4.25	11.00

DEPTH OF THE PELVIS.

Anterior (from top to bottom of symphysis pubis in median line) .....	2.00	5.00
Posterior (from the center of sacral promontory to tip of sacrum, being a straight line between two points) .....	5.00	12.00

MEASUREMENTS OF FETAL HEAD.

Occipitomentalis (from the tip of the occipital bone to the center of the lower margin of the chin) .....	5.25	13.00
Occipitofrontalis (from the occipital protuberance to the root of the nose) .....	4.50	11.50
Suboccipito bregmatica (from the point of union of the neck and occiput to the center of the anterior fontanelle) .....	3.75	9.50
Biparietalis (between the two parietal protuberances) .....	3.75	9.50
Bitemporalis (between the two lower extremities of the coronal suture) .....	3.25	8.00
Trachelobregmatic (from the posterior angle of the anterior fontanelle to the anterior margin of the foramen magnum) .....	3.25	8.00

Another matter of vital import that should come before our Society for discussion, and that is the widespread inferior results obtained in private practice as compared with hospital service and how may better results be brought about? How may the present almost ideally perfect results obtained in hospital obstetrical practice, both as regards mortality and morbidity, be duplicated in private practice?

It is very difficult to obtain reliable statistics as to the mortality rate in private practice for obvious reasons, but Wiggins, Boxall, Byers, Webster, Williams, Norris, and others state that there has been comparatively little improvement in private practice since the introduction of asepsis in the management of labor. The high mortality from sepsis in private practice

constitutes a reproach on the practitioners of medicine everywhere and the question is how can it be controlled?

Not only must the education of our students be considered, but also the education of the people. Dr. Wm. J. Mayo in his presidential address at the fifty-seventh annual session of the American Medical Association declares that the public is two decades behind advanced medical thought. In obstetrics this is still more marked, owing to the superstitions that still cling to the mystery of women in labor. The public needs to be educated in regard to the vital necessity existing for a rigid aseptic technique surrounding each patient in private practice during labor and the lying-in period, the extreme difficulty of maintaining surgical cleanliness in private homes, and the advisability of securing *sanatorium or hospital treatment for obstetrical cases*. As the laity have been educated to the idea of hospitals for surgical work, so they must be educated to similar methods for obstetrics, as every obstetrical case partakes to a greater or less degree of a surgical nature and we all know the extreme difficulty of inaugurating a surgical technique in a private house and maintaining each detail perfectly. The solution of the problem in the large centers, must be larger public and private hospital service distinctively for obstetrical cases.

For the isolated cases and those far removed from the large centers, a reduction of the technique to the greatest possible simplicity so as to bring it within the scope and ability of every general practitioner. An observance of the essential parts, however, should be made obligatory, i.e., the thorough cleansing of the skin of the patient and the hands of the obstetrician, added to which the wearing of rubber gloves and the avoidance of carrying any septic material into the parturient canal.

By these measures *alone* can we hope for the amelioration of the unfortunate conditions existing in private practice at the present time.

Another matter that should be considered by the Society is the relation that midwives bear to obstetrical practice and the regulation of their practice in the different communities. That they are an important element cannot be denied when it is shown that for the year 1905, 43,834 mothers in Greater New York alone were attended by midwives, that 42 per cent.

of the children born in New York were attended at birth by midwives, and that among the Italian, 93 per cent. of the children born received the attention of these women. Figures like these for one community show the place they hold and the need of supervision and regulation of their work.

That their work is far below the standards of present-day obstetrical practice cannot be denied, that their presence in the community is a menace to the well-being of the child-bearing woman whom they attend is also apparent, and the question is how may they be so regulated so as to mitigate the disasters of their practice as much as possible.

They are essentially un-American; they are a part of the old-world institutions that accompany the great tides of emigration that come to our shores, and in the process of assimilation are gradually displaced by the medical attendant. By reason of their position in life and training, they are unable to approach the treatment that American ideals demand for her woman in labor, therefore, care should be exercised not to perpetuate their existence as a body, by legislation to dignify their calling, or create schools for their training, but rather place in the hands of local boards of health the power to regulate their practice and supervise their cases. In the mean time educating a foreign element to the necessity of the trained medical attendant at the time of labor, and also the establishment of hospitals for their care, where they can have intelligent attention and clean work.

Another point in the technique of the lying-in room that demands greater attention is the care of the eyes of the new-born. When statistics show that out of 58,000 blind persons in our country in the last census 15,000 were due to ophthalmia neonatorum, the necessity for greater care becomes apparent. It should become obligatory to have instillations of silver nitrate in the eyes of the new-born as a routine measure particularly in dispensary practice.

Certain sociological problems enter the domain of obstetrics that cannot be evaded either individually or as a body, and one of these is the prevalence of criminal abortion and the inadequacy of the law in securing the conviction of the offenders. In one report\* it is estimated that there are not less than 100,000 abortions committed annually in New

\* Mabbat, "Regulation of Midwives," *Am. Jour. Obs.*, April, 1905.

York alone and the records of the coroner's office show an average of three deaths a month due to criminal abortion. Against these facts, the records of the District Attorney's office showed that during the past six years in New York only three persons were convicted of criminal abortion as the result of twenty-four prosecutions.

Another problem that we cannot disregard and which is becoming more widely recognized, is the effect of gonorrheal infections and syphilis in producing loss of function in women and injury or death of the child. The true importance of these evils is being better understood as research and surgery have disclosed the appalling results of gonorrheal infections in the female pelvis. Ascending gonorrheal infection means pus-tubes with consequent sterility. The gynecological surgeon realizes in his frequent operations for pyosalpinx how large an element gonococcic infections play in contributing toward so-called "race suicide" in women who otherwise should be in the full tide of their reproductive powers. The last few months shows a greater awakening upon this matter and much literature with statistical data and the necessity of the instruction of the public on these matters. Howard A. Kelly's\* paper on "The Protection of the Innocent" and "Restoration of Function in the Innocent," by G. E. Shoemaker,† are both strong pieces for the control of the evil.

It would hardly be in keeping with the subject of Modern Obstetrics not to note the most valuable of the recent contributions that mark progress. Vaginal Cesarean section as recommended by Dührssen particularly as offering rapid delivery in eclampsia, is one of our most valuable surgical developments and vies with the classic Cesarean section where haste in delivery is indicated. It will be permitted many times when abdominal section would not be considered.

Pubiotomy also ranks as one of the new surgical procedures and will undoubtedly displace symphysiotomy largely in the near future.

Original work on the ante-partum measurements of the fetal head by W. S. Stone‡ marks a valuable advance in pelvimetry, aiming to determine more accurately the rela-

\* Am. Jour. Obs., April, 1907.

† Am. Jour. Obs., April, 1907.

‡ Am. Jour. Obs., February, 1905.

tion between the fetal head and maternal pelvis before labor sets in.

In line with preventive measures, the development of the technique of the induction of labor has received a marked impulse this last year. James D. Voorhees\* work in modifying and perfecting the Champétier de Ribes bag as a hydrostatic dilator of the cervix for inaugurating labor or in starting pains in protracted labor is a valuable contribution. Also E. E. Morse's† article on "The Induction of Labor as a Conservative Operation in Contracted Pelvis," points the way clearly to the successful management of these cases, instead of waiting for the inevitable complication attending labor at full term. It will become more widely adopted as ante-partum examinations become more generally a routine measure.

Besides all the wealth of scientific research and the advances in the art of obstetrics that is ours, we as homeopaths have the added wealth of our materia medica to aid us in the treatment of our pregnant and lying-in women. Nowhere in all the domain of medicine are there greater opportunities for the exhibition of our remedies than when used to control the multitudinous functional disturbances of pregnancy, the stormy period of labor, or the perversions of the lying-in period. The poetry of our materia medica is reached when with nice discrimination we administer to the mother the deep-acting remedy that will eliminate the constitutional dyscrasia from her child while yet unborn.

Great are our privileges and much must be returned. As a Society representative of the best that is yet acquired, possibilities open large before us, vistas of development appear in every direction around us. We have but to grasp our opportunities and working together fulfill our destiny.

SAN FRANCISCO, CAL.

\* Am. Jour. Obs., January, 1905.

† Am. Jour. Obs., December, 1906.

## SOME ASPECTS OF ABDOMINAL PAIN IN WOMEN.\*

BY W. CASH REED, M. D. EDIN.

### SYLLABUS.

#### INTRODUCTION :—

- (1) Pain in General.
  - (2) Pain and Temperament.
  - (3) Pain and Education.
  - (4) Pain as an Index.
  - (5) Pain May Be Salutory—Instances.
- Estimation of Pain.  
Referred Pain.

#### SECTIONS :—

- (1) Pain Due to Tired and Stretched Muscular and Fibrous Structures.
- (2) Rheumatism in Relation to Pelvic Pain.
- (3) Gonorrhea.
- (4) Septic Lesions.
- (5) S. W.† Corner Pain.
- (6) Pain in Abdomen which is not manufactured there.
- (7) ~~Syphilis~~—Three Cardinal Points.
- (8) "Resting Pain."

### INTRODUCTION.

I propose dealing with some aspects of pain in the abdomen in women, with the object of indicating certain general principles, and also of pointing out some pitfalls to which one is liable if imperfect examination and diagnosis be made. I have found it impossible to deal with the subject of treatment, except incidentally and with the object of knitting together otherwise fragmentary data.

The subject of pain is such a vast one, for it is almost as wide as the science of medicine itself, that I should hesitate in this short paper to deal with it at all were it not that I intend to narrow its limits to quite a small area.

Thus I propose to deal with a few only of the causes of pain which are situated in the female abdomen, though on the subject of pain in the abstract I shall generalize a good deal.

\* Read before the British Homœopathic Society and subsequently amended and its scope enlarged.

† "South-West," the region of the appendix, *i.e.*, the right inguinal and neighborhood.

As to the cases to be brought to your notice, I have selected such instances as are illustrative from clinical experience up to recent date.

Before particularizing, I wish briefly to speak of (1) *Pain in General*, or rather such aspects of it as are forced upon the attention of all medical men sooner or later. As we listen to the patient's tale of woe, the mind falls automatically into an analytical frame, and perhaps equally into a judicial one. Having analyzed the patient's complaint, and selected the chief points of importance from a confused mass of evidence, the latter has again to pass in review with reference to minor points of subsidiary importance. The process of reasoning is exactly opposite to that of the text-book, which labels the disease and then describes its symptoms. This plan has always seemed to me somewhat addling, though I do not presume to say it can be avoided. Perhaps it is necessary; at any rate it is the *form* of academic teaching of medicine, as distinguished from that of practical teaching. The disease is embodied in the patient, who has no difficulty in acting as his or her mouthpiece, and due allowance having been made for irrelevant matter, the listener may now label the disease.

(2) *Temperament*.—No scheme, however, as we all know, can be taken too literally, for the *personnel* of the narrator must be estimated, and this is no easy task when we see him or her for the first time. If we omit the personal equation we are liable to be hopelessly led astray. Speaking broadly, there are two types of patient which puzzle me the most, viz., the *histrionic* and the *self-centered*. They both exaggerate frightfully, but from perfectly different motives, neither of them laudable, but neither actually vicious. The former exaggerates from that state of mind which sees all life in dumb-show, to whom, "All the world's a stage," but they the only "players." There is frequently observed in this class of patient a quick sympathy and a kaleidoscopic change of mental attitude, so that the scene of suffering which they are depicting changes while you look at it. This sympathy sometimes takes the form of self-pity, and the change of mental attitude is due to a sudden sidelight, which has shot athwart their vision.

As to the second (the *self-centered class*), they require more patience. They are those who have an overweening sense of

the importance of detail, and who have perhaps been unfortunately told that such and such an organ is affected, mostly the ovaries, sometimes the uterus. Now "the fat's in the fire" with these patients. Their minds are overmastered by the particular organ at fault. They have, in short, uterus or ovaries "on the brain." The *ipsissima verba* of the doctor have done infinite harm, and the next man has a Herculean task to find another mental objective. It is well to record patient's exact words in reply to your questions. They are sometimes remarkably illuminating. I well remember the mother of a girl wishing to indicate that the latter was suffering from a cold sensation from the anterior nares to the pharynx, described it thus in Devonshire fashion, "Her nose is like a piece of ice from yur right 'ome to yur." Again, a well-known surgeon of St. Bartholomew's tells how a man in the out-patient department described his sufferings as "crampy veins,"—this is illuminating to a degree, and William Bennett insists upon the close relation of so-called cramps and varicose veins. Instances of this at once occur to me, and they will to all.

Pain, from a purely scientific or physiological point of view, I propose scarcely to touch upon, the subject is so vast. Yet I can hardly dismiss this aspect without briefly alluding to pain as an Index of Disease, and pain as an Expression of Intelligence, for in thinking over my paper these two points of view have come conspicuously before me. To take the latter first:

(3) *Education*.—From a very interesting book recently published, entitled "Savage Children," by Dudley Kidd, the following passage occurs. The author is describing the children of one of the South African Tribes, and he says: "Savage children are evidently less sensitive to pain than ours are, and are strangely slow in locating it. A grown-up Kaffir assured our author that he could well remember suffering from headache while as yet he had no idea where the pain was, and would have believed any one who had assured him that it was in the roof of the hut instead of in his head. Naturally, therefore, they are strangely unsympathetic about pain, and the same black man declared that as a child, though he had continually seen pain inflicted he did not know what it meant, nor did he realize the significance of a threat until one day



when, for the first time, his father struck him." This passage needs no comment, but it indicates a very interesting field for observation anent moral and intellectual culture in relation to the perception of pain.

With regard to pain as an (4) *Index of Disease*, it may be *Salutary* and thus useful, though few of us would admit that the pain of toothache, e.g., were a happy inspiration on the part of Nature for the purpose of commending a special molar to the dentist's delicate attentions! Yet pain may be salutary, as I shall show immediately, although it seems absolutely useless, for it cannot, like electricity, be chained and stored for use in the arts and manufactures. We have yet to invent an instrument, similar to the sphygmometer, which shall record the pangs of the sufferer, and give a tracing of a degree of pain which at a given moment he may be suffering from; otherwise with what mathematical precision we could apportion an anodyne. Such a hypothetical instrument, I submit, might be called an algometer. I believe it was Matthews Duncan who once referred to this subject of measuring pain, but he called his imaginary instrument an *odynometer*.\* Is there, then, no standard of pain? In a large section of cases in which the pain is *acute*, I certainly think there is. There are three cardinal symptoms which indicate severe pain in a given case, whether the patient be histrionic, imaginative, self-centered, or, in short, whatever be his or her temperament, viz. (1) vomiting, (2) feeble pulse, and (3) collapse. Thus we have a tripod of considerable utility in dealing with degrees in acute pain.

To revert, however, to the statement that pain may be *salutary*. Let me prove it by an instance or two in which its absence as an index may be disastrous. In locomotor ataxy the sensation which indicates a distended bladder may be absent, or markedly diminished, and we have all probably heard of a distressing sequel in such a case. Again, impaired nutrition of a cutaneous surface as, e.g., by urine in the aged, accompanied by blunted sensations, may and often does lead to bed sores. Thus the intelligence of the nurse must take the place of sensation in the senile, and here many a nurse has found the fulcrum of a lasting reputation. Lastly, injury to a joint enforces rest, and the pain of pleurisy or peritonitis

\* ἡ ὀδυνή.

does so also as regards the structures involved, in order to curtail an extension of the inflammatory process.

Another point must be mentioned, viz., the Estimation of Pain. I have already referred to this when speaking of pain in general, but should like to particularize. I would lay it down as an axiom that in the very young, the estimation of pain is always genuine. I know, e.g., that a child, with a tracheotomy tube inserted, may work itself into a *temper* from discomfort and annoyance, and general disgust with everything and everybody including its nurse, though she be the embodiment of every virtue, but this is not pain. A child, however, who complains of what is styled "growing" or "rheumatic" pains, can never be disregarded, for its plaint very often means tubercle, and tubercle, moreover, in a stage which is curable.

#### REFERRED PAIN.

The subject of referred pain almost demands a paper to itself. That in the knee in hip disease, and in the penis from vesical calculus, and in the testis from calculus in the ureter, are all well known. My own recent experience in this class of case leads me to say a word on two or three instances which I have found most interesting and instructive. Sciatica is not usually associated with uterine flexion; yet it frequently is so. For a flagrant instance, I am indebted to Dr. Hynd, who had a case of severe sciatica in a school teacher. The pain had lasted for upwards of a year, when the girl, failing to get relief from her medical man, consulted Dr. Hynd. The latter at once thought it of pelvic origin, and sent the girl to me. The uterus was found to be acutely retroverted, and we decided to give an anesthetic and rectify matters. This was done at home, and the patient was permanently cured from that moment. Again, sciatica and sarcoma in the pelvis, if of infrequent occurrence, fail sometimes to be associated in the practitioner's mind. Yet the connection is so conspicuous that it is infinitely worth while to remember it and thus avoid a pitfall. Again, in so-called sciatica, we may wisely search for a gluteal abscess due to tubercular bone, where pus has welled through the sciatic notch. Such an observation may be of the greatest utility.

For another conspicuous instance of referred pain I am indebted also to Dr. Hynd. The patient, a young married

woman, had had one child six years ago. Since then she had not been pregnant. Some four years before marriage she fell downstairs and injured the coccyx. Prior to our consultation, patient had been kept in bed for a month, with the object of curing, if possible, the persistent coccygodynia, but the latter was merely relieved. On making a pelvic examination I found a hard and painful swelling of Douglas' pouch, and the significant fact that pressure thereon was immediately referred to the coccyx. There was no doubt whatever on this point, and we came to the conclusion that the case was one of salpingo-oöphoritis, the pain of which was reflected to the coccyx. I advised abdominal section, and this was by-and-bye performed, the time intervening being occupied by the employment of such agents, medicinal and local, as would assuredly have cured, had it been possible to do so, without recourse to the knife. At the operation I found the right ovary enlarged, cystic, and prolapsed; it and the tube were removed. The left ovary was healthy, and with the tube on that side was left *in situ*. The patient made an excellent recovery, with a temperature scarcely above normal throughout.

*Remarks.*—One is sometimes inclined to claim too much in a given case as the result of either medical or surgical treatment. For this reason I always like to get to know the patients' estimate of the results, or that of their friends. As in this case the husband was good enough, unasked, to describe the result as "wonderful," I thank him for thus pointing the moral.

#### SECTIONS.

Perhaps the commonest form of pelvic pain in women, especially amongst the poor and under-nourished, such, e.g., as form the bulk of our out-patients, is:

(1) *Tired and stretched muscular and fibrous structures.*—A homely illustration will serve best to illustrate my meaning. I was accustomed when in Plymouth to see women only on Tuesday evenings at the out-patient department of our hospital there. The class of cases I now refer to would put the situation in a nutshell something after this formula: To the familiar query, "Well, how are you?" the answer would be, "O, I'm very bad to-day, though I was better on Sunday and Monday,

but then you see I was washing yesterday, and that never agrees with me." Here is a hint thrown gratuitously to the soap manufacturers, combine or otherwise, for a telling advertisement. The materials are at hand! The artist "does the rest!" Muscles in women are weak, and after child-birth often subinvolted. The nerves are sensitive, frequently from want of sleep, and this class of case is often anemic. These patients frequently feel quite well in the morning, and fit for the daily arduous round, but after they have been on their feet for a short time the old familiar pain returns. It is referred to the sacral region, frequently between the shoulders, to the hypogastrium and down the thighs. The *treatment* is obvious, viz., rest, but this is often, of course, impossible. I used at one time frequently to order these cases a poroplastic jacket, beautifully made by Cockings' representative in Plymouth, and to whom I often send now. But after all, this treatment only meets the case of a comparatively small portion, and is at best a makeshift, though a most comforting one. Perhaps the best is to give these patients a pessary, for it supports the tired and stretched pelvic floor, and this part of the muscular system is the one most urgently needing help. The medicines I have found most useful are *arnica* and *actea*, and, as a diet, iron.

Closely allied to this first division of my subject is (2) *rheumatism* in its relation to pelvic pain, and I shall say a few words in the second place under this head. The late Dr. Ord was, I believe, the first who conspicuously insisted upon the fact that chronic rheumatism in women could frequently be cured by treating catarrhal conditions of the uterus and cervix. Rheumatism is a toxemia, and is frequently absorbed *via* the throat as in tonsillitis; by the urethra in the form of the gonorrheal variety, and by the uterine cervix in abrasion and breaches of continuity in that structure. I believe that rheumatism in women is frequently seen clinically in the form of rheumatism of the pelvic ligaments. Two interesting cases were recently in the hospital, and will serve to illustrate what I mean. One is a patient of Dr. Compston's; he asked if anything could safely be done to repair an extremely bad tear in the anterior lip of cervix, extending right up to the floor of the bladder. This tear had occurred in the last confinement. The apex of the tear, I may remark,

was extremely sensitive, and when touched, caused great pain. Just prior to coming into hospital, Dr. Compston had ordered her to bed on account of some chest lesion, and whilst she was steadily recovering from that, but still in bed, an attack of acute rheumatism occurred. When the patient came to hospital, I stripped the bladder from the deeply-torn cervix, repaired the latter and restored the former. It happily turned out a success, though densely cicatricial avascular tissue is not ideal for primary union. Of course the rheumatism may have entered the system by some other channel than the cervix, but I submit that if the cure is now complete, and no other attack of rheumatism occurs in this comparatively young woman, there is presumptive evidence that the *materies morbi* entered *via* the cervix.\*

The next case is one in which I do not suggest that rheumatism entered *via* the cervix. The point here is the pelvic rheumatism *per se*. A little girl, aged 13, was distinctly ill. There was constant pain referred to McBurney's point and distinct tenderness there, and a temperature which I had verified during a period of some weeks, while she was an out-patient, of one to two degrees above normal. It may be asked why this child was not at once admitted to hospital as a case of appendicitis? The reason is that that she had already been an in-patient under one of our colleagues, who, I believe, after the most careful investigation, could not satisfy himself that true appendicitis existed. When the child was admitted for the second time, I was equally in the dark as to the cause of the pelvic pain. It was not now continuous, and the temperature had become normal. In order to make a diagnosis in this occult case, I now examined her *per rectum* under an anesthetic. The uterus was, of course, infantile, and was about the size of a filbert. The right ovary was very easily felt, and was very distinct. It was, in fact, larger than the uterus. The left ovary could not be felt. On examining McBurney's point, the tendon of the psoas muscle felt like a ridge and slipped about backwards and forwards under the finger. With this exception, the evidence in this region was negative. Before passing on to the crucial point in the case, I wish to say with reference to the examination *per rectum*, that did the opportunity more frequently arise for examina-

\* Patient, I learn, remains quite well twelve months afterwards.

tion of a child of this age, I strongly suspect some such want of correspondence in the size of the adnexa would be found more frequently. I submit that here we have a transition in the developmental process which, did we better understand it, would throw light upon that obscure class of case in the adult which we call "infantile uterus."

A week or two after this examination, this little girl's temperature rose, and she had an attack of rheumatism in her left wrist, with—and this is most interesting—a subsidence of the pain in McBurney's point.

#### RHEUMATISM AND DYSMENORRHEA.

The failure to improve a given case of dysmenorrhea has resulted in the temporary interment of many a budding reputation. If, however, the fact that rheumatism is a most important contributory agent to pelvic pain of this class be more widely grasped by what I now submit, then the task is a pleasant one, for patients will be benefited, and my friends' reputations maintained. I purposely spoke of *temporary* sepulture, for reputations in such cases are like sutures similarly situated, which have a happy knack of becoming negligible quantities.

*Case 1.*—Mrs. X., about the menopause, with a grown-up family, consulted me, a month or two ago, for pelvic pain, referred to the hypogastrium, relieved by movement, in fact, she could sometimes walk a couple of miles, when it would recur. It was worse in bed, frequently waking her up in the small hours, and worse also on turning in bed from one side to the other. She thus frequently had to arise at night to apply a mustard leaf in order to get relief.

Some seven years ago she had a child born in a remote country place, with the complication of placenta previa. The exigencies of the situation resulted in a very prolonged illness, the pelvic factors of which were cellulitis and endometritis. For the latter curetting was done. When I saw the patient she complained also of pain in the right arm, with, after use, the usual parietic condition associated with a neuritis. She told me she had had expert advice, and was assured that there was nothing wrong internally, in fact, that the condition was conspicuously normal. On examination I found a great number of cicatrices, with their falciform edges in relief, in the

right and left vaults of the vagina and in Douglas' pouch. The uterus was in normal position, but painful on movement.

Here was the key to the situation. Before examination sundry remedies had been employed without conspicuous benefit. Now salicylate of soda (natural) in 5-gr. doses, three times a day, was given. The result was dramatic. The patient has now gone to the extreme North of Scotland, in the confident assurance that all will be well, and in this I believe she is correct.

*Remarks.*—I remember, many years ago, the late Dr. Bishop, of Edinburgh, the most intimate friend of many of this generation of medical men, who was then private assistant to Professor Lister, advancing the view that a very obscure case of painful liver was due to rheumatism of its fibrous structure. He advanced the theory with some qualification, and it was received with that freezing urbanity, which is the prerogative of a lofty, if limited, intelligence in high places! Had salicylate of soda been known in those days, my impression is there would have been a scenic undoing of the opposition.

*Case 2.*—Mrs. B., aged 30, complained of intermenstrual discharge and pain (*mittelschmerz*), green leucorrhea, dyspareunia and hemorrhage after coitus. She had had three dead-born children. On examination I found a tear on the left side of the cervix, with nodular edges, and metritis also. The introitus was healthy, so the dyspareunia could not be due to a lesion of that part of canal. In view of the likelihood of syphilis in this case I gave merc. cor. with distinctly satisfactory result, but the case only partially cleared up. At an interview now she volunteered the information that pain in the womb was much worse in damp weather, and that coitus was specially bad then. She added that she had been subject to rheumatic pains. She was therefore ordered sod. sal., gr. v., *t.d.* At her next visit my notes say: "Patient is wonderfully better in every way, and she says 'the discharge after coitus and all the other symptoms are gone.'"

I should like to have cured these cases with a less contentious remedy, but I did not. Sometimes one employs antagonistic remedies with the object of clearing up some ambiguity about a case, that is for diagnostic purposes, and it sometimes happens in such a circumstance that the patient is cured! If the patients referred to require further treatment,

I shall probably give a course of bryonia, or actea and baths, and waters rich in sulphur. This last, by the way, combined with guaiacum, was a great remedy of the late Matthews Duncan. The combination is significant. I see in the latest publication I have come across on "Dysmenorrhea," viz., that by Herman in the *Clinical Journal*, the writer lays stress on guaiacum, which seems to be his sheet-anchor in cases of this trouble. One may just mention also Dr. Luff's experience with guaiacol in rheumatic conditions. In the light of the evidence adduced I think it is quite obvious that cases of pelvic pain should be investigated on the supposition of a possible rheumatism underlying all. There is with us but little time to do this sometimes, with the enormous number of out-patients at our dispensaries. Ninety-three thousand was the number of attendances last year in all the branches added together. Recognizing, however, more clearly in future the point I have dwelt upon, I shall look to a better record of results in this class of pelvic pain in women.

(3) *Gonorrhea*.—It would be idle longer to delay reference to what is, after all, by far the commonest cause of pelvic pain in women, viz., gonorrhea. If this could be eliminated women would be relieved from a thralldom which is simply appalling. All men who work at gynecology, especially in such great cities as this, must frequently be sick at heart at the suffering inflicted upon the innocent by those who enter upon marriage with an incompletely cured gonorrhea. I do not of course mean that such a compact is necessarily vicious, it is often a matter of ignorance only. When one considers the fact that men do not have sexual intercourse during the acute stage of gonorrhea, it is obvious that most women are infected from cases that are more or less chronic in character. My own experience points to the fact that a chronic posterior urethritis is the lethal agent responsible in most cases for the wrecking of women's lives.

The potentialities, appalling in degree, of the penile "morning drop" are not half recognized, considering the number of cases of transmitted gonorrhea discovered on the honeymoon. I have no desire to moralize, and leave that to abler and better men in another field. I merely state the impressions of a gynecologist in the slums largely of a great city. To imply, however, that gonorrhea were more prevalent amongst



the poor than the rich would probably be a hideous injustice.

Before proceeding further to consider pelvic pain due to gonorrhea, it is necessary to generalize a little, or there will be a danger of confusing things which are essentially different, though they may occur in one and the same patient. I refer chiefly to septic pelvic lesions. This is a big subject, and I only touch its fringe. When speaking of septic lesions, I mean conditions quite independent of the gonorrheal virus. The mind of a gynecologist is liable to be obsessed by gonorrhea in consequence of its extraordinary prevalence; yet he must sometimes, if I may use the term in this connection, seek to depolarize his mind from gonorrhea altogether. This is specially necessary when dealing with lesions commonly known as septic.

(4) *Septic lesions* of the pelvis are common enough, though I believe far less so than formerly. This, of course, is due to the strides made in teaching practical antiseptic midwifery both to students and midwives. It may provoke a smile to see a student place his hands in a corrosive sublimate solution whilst he slowly counts five. But it's up-to-date science all the same. Probably, too, india-rubber gloves have saved many a woman's cellular tissue from infection, though I am still old-fashioned enough to look upon the latter somewhat in the light of a fetish. Septic lesions of the pelvis are due to trauma, and are dependent upon septic fingers or instruments. The organisms found in these cases are the strepto- or staphylococcus. They are introduced from without and are elaborated within the organism. A well-known red herring is sometimes trailed across the path to confuse the issue, viz., sewer gas. I do not plead immunity from calling in the aid of this malodorous fairy, but it is best to admit at once that in sewer gas poisoning, which, of course, is well known in the puerperium, one does not find the strepto- nor the staphylococcus, so at least I believe. In pelvic pain due to a resolved pelvic cellulitis and peritonitis, menstruation is excessive, and the pain is very great; and the latter is due to the implication of the peritoneum. In the intervals of menstruation there is a muco-purulent discharge. The treatment is largely surgical, for foci of infection remain in the endometrium, and for these a certain amount of absorption takes place through the lymph channels and is carried to the adnexa; thus the inflammation

is kept up. Therefore, curettage and cauterization and destruction of these foci is indicated.

(5) *Perityphlitis*.—With regard to the subject of pain in the S.W. corner of the abdomen, a citation of the two following cases will be of interest. They serve to emphasize the great importance (when contemplating pain in this region) of not too hastily rushing to the conclusion that it is infallibly due to inflammation of the appendix. I know of nothing which expresses better the attitude of mind which too readily assumes the relation of cause and effect here, than to speak of it as a mind obsessed or besieged. We often speak of a thing being "upon the nerves," and we know exactly what is meant. I think appendicitis is liable to "get on one's nerves," and it needs a level head, a due sense of proportion, and a wise generalization of facts, to give a sound judgment in a given case. I am not, of course, speaking of cases in which operative delay would mean gangrene and abscess perhaps in a few hours. In short, all cases of fulminating appendicitis are entirely excluded from these observations. In the cases I am about to refer to, the symptoms were those of appendicitis, and which doubtless existed *inter alia*, but as a factor, and though an extremely important one, still only a factor, in the group of signs and symptoms. Miss X., a patient of Dr. Whitaker's aged about 30, had an attack of perityphlitis last summer when away from home. She was then attended by the practitioner on the spot. The present attack commenced with very severe pains in the abdomen. The temperature fluctuated between 99° and 100°, and the pulse was correspondingly rapid. The bowels were costive, but were not much distended, and the pain was severe in the right groin and thigh, also in left side in region of descending colon. The face was much flushed, and the patient was obviously very ill. When asked to locate the pain, the patient placed her hand in the latter region not over the appendix, nor (which was significant to my mind) upon the epigastrium, for so-called "stomach ache" often really spells appendicitis. We examined carefully by the rectum and found a mass which was situated about the middle line, and this was tender and hard. I suggested that we should, contrary to ethics in a single woman, examine *per vaginam*. This we did, and found that the lump was unmistakably a retroflexed uterus. It was

painful, especially if in the least tilted, and there was no difficulty in diagnosing a fairly extensive cellular inflammation around it, in other words, a parametritis. Dr. Whitaker took specimens of the blood and there and then estimated with much accuracy the leucocytosis. The count was as follows:

January 8, 1907, at 2 p.m., leucocytes 18,000

“ “ 10.30 p.m. “ 19,660

Here was a difficulty in view of above rendering, for, as is well known, a rapid rise in the proportion of phagocytes indicates operation. In view, however, of the totality of the above signs, we decided to wait for twenty-four hours. We continued bell. and merc. cor., and ordered an olive oil injection to be placed in the rectum and retained, and a saline aperient to be given in the morning. The following morning Dr. Whitaker telephoned that there was no need to come as the patient was very greatly better; at ten o'clock this morning the leucocytes were 12,000, and on the following day, at the same hour, 5,200. I have not seen her since, but Dr. Whitaker informs me that the recovery, though slow, has been steady, that the parametritis has become more and more circumscribed, and that the peritonitic inflammation has disappeared.\*

The second case in this section which I wish to bring before you is that of a lady, also aged about 30, and who was under the care of Dr. Hynd. The history was that of a week or ten days of vomiting, with a temperature that oscillated between 100° and 102°. There was persistent pain in the abdomen, chiefly on the right side. The tongue was almost clean, but the vomiting was so great that the patient could retain merely a little orange juice. The abdomen was tender, bowels not much distended, but over an area of about four inches in diameter in S.W. quarter of abdomen, there was a hard, boggy swelling, dull on percussion and very tender to touch. Its outline was fairly obvious above, but below it merged imperceptibly into Scarpa's triangle, leaving the fold corresponding with Poupart's ligament obliterated. The patient looked very ill. The chief cause of suffering was intense pain on defecation; so agonizing was this, that the doctor had been

\* In August this case was operated upon in consequence of a persistent muco-colitis with neurasthenia. I found the appendix adherent to adjacent intestine. The former was removed and the latter separated. The patient is making an excellent recovery.

obliged to keep the patient under the influence of morphia. Before this was resorted to, her screams alarmed the whole neighborhood. A rectal examination, verified as in the last case by a vaginal one, revealed a diffuse swelling, and, as in the last case, also a retroflexed and tender uterus. This examination was not very thorough, as the patient was so intensely tender. I thought we had to do with a pelvic cellulitis, probably already broken down, but so far not actually pointing in any of the three usual situations, viz., above or below Poupart's ligament, or in buttock through the sciatic notch. I advised the immediate removal of the patient to a private ward, either in the Wigan Infirmary or to one in our own hospital, with a view to operation, which it seemed hazardous to delay. The day but one after, she traveled by road from Wigan to Liverpool in a horse ambulance. Contrary to expectation, she did not suffer from transit. The temperature had even sunk and the pulse become slower. The subsequent history I may condense. The phlegmon gradually subsided, the pain on defecation lessened, and pulse and temperature became normal. A week after she could take and digest solid food, and only a very slight swelling then existed. One very curious feature in the case, and which I had not hitherto seen marked to anything like the same extent was this, whenever the tender swelling in S.W. corner was percussed or otherwise manipulated, an involuntary contraction of muscular fibres of abdominal wall would set in, very hard and tender. It was sausage-shaped, with the long axis reaching from the middle of Poupart's ligament upwards and outwards in the direction of and beyond McBurney's point. As the internal structures became less sensitive, this contraction became less and less marked, and finally subsided. This patient, I should observe, was also treated by bell. and merc. cor. I have no doubt the case was one essentially of pelvic cellulitis, involving especially the region of rectum and right ovary. The signs and symptoms, however, closely resembled those of appendicitis. I may add that before the patient left the hospital, under an anesthetic it was ascertained that a large and prolapsed right ovary existed.

(6) *Pain in epigastrium which is not manufactured there.*  
—I wish now to refer to such pitfalls in this connection as in our less experienced days we fell into, and might again

unless forewarned. The most common cause of pain in epigastrium is, of course, some form of gastric disturbance producing hyperesthesia. Gastric mischief, however, of all kinds I am putting entirely out of count at present.

There are four conditions which give rise to pain in the epigastrium which is not manufactured there, and have nothing to do with the stomach: (1) biliary colic; (2) appendicitis; (3) caries of lower dorsal vertebræ; (4) pleurisy and pneumonia.

As to the first, biliary colic, the subsequent history of the case will clear up any ambiguity.

As to the second, appendicitis, I have learnt never to fail to investigate cases of frequently recurring "stomach ache" in the young, especially in the young adolescent, in the light of possible appendicitis. What happens is this: The patient complains of stomach ache, probably of vomiting also, and on being asked to locate the pain does so definitely in the epigastrium. There may, or may not, be a rise of temperature, probably there is to some degree. By-and-bye, this pain subsides and gives place to the typical pain in S.W. corner of abdomen. Probably in all such cases as I have described, there is really pain at both sites, but that in the epigastrium is so much the more severe that it overmasters the other, and it so falls out that as the greater pain subsides, the patient for the first time becomes aware of the pain at McBurney's point.

Third: Caries of the lower dorsal vertebræ. The fallacy here is so well known that I need do little besides mention the fact in order to make my list complete. The pain is conducted along the course of the spinal nerves from the site of mischief, but is felt where the nerve endings are distributed, another instance of the *puncta dolores* of the older writers.

Fourth: Pleurisy and pneumonia. An acute attack of either the one or the other, or a combination of both, is not infrequently associated with very severe pain in the epigastrium. The symptoms are so acute, and the pain so severe and localized, that mistakes have been made on the assumption that the trouble was an acute abdominal one, and the abdomen opened, with, of course, negative result. There are, of course, certain indices which we might suppose would prevent the error. The pulse and temperature failing to give a definite

clue, it might be assumed that the character of the respiration would at least act as an index, yet it has failed to do so in the most competent hands. The inference is that in all cases of acute abdominal pain, especially in and about the epigastrium, we ought to make a point of very carefully examining the chest. In such case, to use an Irishism, we may find that the mischief is after all not in the abdomen, but in the thorax.

I am inclined to include another thoracic condition under this head, and to refer to pericarditis. If the latter is associated with diaphragmatic pleurisy, I submit that the pain is largely in the epigastrium. One point, however, I am quite sure of, and that is the very curious one, viz., that pericarditis often induces very severe pain in the right shoulder.

As regards (7) *syphilis*, a few words must suffice. Experience teaches me that, apart from the outward and visible signs so well recognized in this disease, there is a well-marked triple index of its underlying existence in a case whose primary symptoms are not suggestive of its existence. I am supposing a case in which no obtainable history of syphilis is forthcoming. There is nothing typical in throat or skin, and yet the patient is obscurely ill. I am, of course, excluding cases in which there are para-syphilitic phenomena, e.g., *tabes dorsalis*, or syphilis of brain, in other words, remote or more chronic forms of the disease.

The three points which I have learnt to rely upon chiefly first in the diagnosis of cases in which I believe syphilis to be in the background, and yet one cannot demonstrate it until *kali iod.* has been given, when the effect is often dramatic, are: (1) A temperature of the moderately hectic type; (2) anemia, in which hematinics are useless; and (3) pains, worse at night.

### *"Resting Pain."*

There is one aspect of pain which has not so far as I am aware received the full recognition which its importance merits. It is one which might well occupy the undivided attention of an essayist on pain; it embraces a field which I believe has been but little digged, though its hidden treasures are extremely abundant.

We are all aware of "resting deformities," and in no branch

of medicine or surgery are these more continuously in evidence than in orthopedics. To take but one, a familiar example of daily observation, viz., lateral curvature of spine. In it a feeble vertebral column is thrown out of the straight line by the frequent resting on one hip, and we see the well-known curve with the compensatory one also. Thus we have an instance of resting deformity as the result of tired and stretched muscular and fibrous structures, to which I have already referred. To go a step further, it is probably less obvious, though equally true, that similar forces being in operation, we may get, not a deformity, but an ache, conscious or unconscious, to use a paradox. Take the conscious first. A patient suffers from, say, rheumatoid arthritis of the right knee—I will take such a case, not an imaginary one, but a patient of my own, and of which I have copious notes.

What happens? With the object of relieving the pain in knee when patient rests his or her weight upon it, it is more or less flexed, with the result that a corresponding contraction of the hamstrings takes place. Thus, firstly, we have a "resting deformity." Similarly, with the object of resting the painful joint, more work is thrown upon the other leg, and the stress of this may come primarily on the metatarsus of the other leg and the corresponding thigh. Of the pains thus induced, the patient is only too well aware. Thus we have the *conscious* pain. We may now consider what I have termed the *unconscious* pain, and which is essentially a neuritis, though of a kind which does not express itself in pain unless this quality be intentionally aroused by pressure. Press here and there at sides of vertebral column where the nerve trunks emerge, and it is a revelation to find how many points of really acute pain are elicited, and of which the patient himself is unconscious until they are thus picked out. Here we have the *unconscious* form of "resting pain." In both cases there is a neuritis, but in the one accompanied by its correlative pain, in the other without its correlative, except when the latter is elicited by slight trauma. I submit that both kinds of neuritis are induced by posture unconsciously adopted for the purpose of compensation, and that thus there is induced muscular and nerve fatigue accompanied by hyperemia.

There is one other aspect of "resting pain" to which I wish to draw attention, and it has to do with the transmission of

so-called "ovarian pain." I am fully aware that it is the fashion to regard this form of pain as a kind of Aunt Sally, at whom all sorts of gibes, anatomical as well as pathological, may be cast! It is a cheap, and therefore no doubt a popular, amusement! But an avowed gynecologist finds the game beyond a joke.

The form of "resting pain" to which I now allude is, I believe, constantly mistaken for pain due to *pressure*. I speak of that which accompanies ovarian disease, and which is conducted *down the thigh*. Let the following case suffice to bring out the point for which I am contending.

Mrs. B. came to the Dispensary a few weeks ago. She had had one confinement a couple of years ago. The child was extraordinarily large and the labor extremely difficult. There had been very extensive tearing of the cervix high up into the broad ligament. How the uterine artery escaped I do not know. After a time she went to a hospital in this city on account of severe pain in the left ovarian region, and down the corresponding thigh, which often "went to sleep" and was numb. At this hospital the tear was successfully treated by Sims' operation, but, unfortunately, the pain remained, and a radical operation was advised and refused. She now went to the Stanley Hospital, where similar advice was given and declined. Then she came to us. I reviewed the case very carefully, and in view of the following points was unable to advise any alternative.

The uterus is retroverted. There is but little tangibly wrong with the adnexa on either side. In view of the fact, however, that the trauma incident to the confinement is cured by the operation she has already undergone, and yet the pain remains, it is probable—nay, certain—that considerable ovarian disorganization still exists. I cannot prove that the gonococcus entered the broad ligament tear, but I am sure that other organisms associated with purulent formation did so—probably in many and various forms—for I am convinced that gonorrhea infection seldom enters alone. Now, as I cannot find the least evidence of pressure on any adjacent nerve trunk, and I have failed to find the slightest hint of it in cases of abdominal section for conditions precisely similar, I do not believe the pain in the thigh is accounted for by pressure in this case, and I do not expect to find it otherwise on opening the



abdomen, to which the patient consents. The probable explanation of the thigh pain is that in the unconscious attempts to relax the abdominal parietes on the left side by flexure of the thigh to relieve the pain in abdomen, the patient has set up a condition of muscular nerve tension, hyperemia, and painfulness which has become well-nigh persistent. In other words there is what I have termed a "resting pain."

Only yesterday I opened an abdomen, and removed a large disorganized ovary and tube, the latter being adherent to the former. Several adhesions were broken down, and the uterus suspended to the abdominal parietes (ventrifixation). The effect as regards the symptoms I await with much interest.\*

In concluding this section, I would be ungracious not to allude to the extraordinarily illuminating researches of Dr. Head in regard to painful areas (spinal segments) associated with pelvic disease. Dr. Cuthbert Lockyer, too, is an authority of the highest order in similar investigations.

What I submit is, that many of the more or less distant pains in pelvic disease are neither "referred," nor are they conducted through nerve continuity, but are due to attempts to rest the part involved, and are, *ipso facto*, "resting pains." Their mode of induction is similar to that which induces in other cases, where the anatomical conditions are favorable, "resting deformities." Of course, the two are often associated, but I hope to have shown that they are not necessarily so, and that the resting pain, contemplated as such, may be most helpful as an aid to diagnosis.

\* A fortnight later.—Patient is making excellent recovery, and the pain is "nearly gone."



## PLUMBUM IN NON-DEVELOPMENT OF THE PREGNANT UTERUS.

BY ALICE I. ROSS, M. D.

Sadie P., 38 years of age, mother of eight children, never had a miscarriage. Patient slender but well nourished, very fair, blue eyes and brown, wavy hair.

In October, 1902, menses missed, patient thought owing to a cold contracted at that time.

In December, 1902, began with nervousness and vomiting, menses still suppressed. Examination revealed uterus enlarging, softening of cervix, and pulsation of arteries of uterus.

I called on her several times during that month and prescribed a number of remedies without benefit, among them were kali carb., nux vom., iod., sul., and arsenicum as they seemed to be indicated. The symptoms were vomiting, hunger, emaciation, loss of strength, nervousness, and obstinate constipation.

There was much eructation of gas, soreness over the stomach, and the vomited matter was sour and bilious; tongue clean, pulse 74, temperature 99 2-5. She ordinarily slept well at night. She finally became so weak as to be confined to the bed and we nourished her by high enemata of saline solution and new milk.

She was emaciated and chilly, tormented by hunger and constant nausea, constipated, the infrequent stools being in the form of small, hard, dark balls. The face was pale, sunken, and bluish; even the beautiful wavy hair became straight and smooth and lost its luster.

At this time the picture presented made me think of plumbum and I took down my note-book and read again what Allen has to say in his hand-book of the non-development of the fibers of the pregnant uterus in plumbum.

I gave plumbum 30x, and the vomiting stopped. In a few days she was out of bed and was able to be about her work again, apparently well except that there was an ill-defined sense of something wrong in the pelvic organs and no apparent development of the fetus. This was early in January. April 3d, after the overwork, grief, and anxiety attending the death

of her youngest son, the fetus and its membranes were discharged entire after which she made an uninterrupted recovery. March 19th, 1906, the husband again called at my office with the message that his wife was again vomiting, menses suppressed since January, obstinate constipation as before. I sent her a remedy, *viburnum* I believe.

At that time I was recovering from a severe illness and was unable to ride, so when the medicine I sent failed to relieve her old-school man was called in.

His treatment proved equally ineffective.

April 19th, I was called to see her and found the same condition as in her former pregnancy; vomiting or attempting to every few moments, chilly, so constipated that the strongest purgatives only brought about a scanty dark, lumpy stool. Some abdominal pain. One prescription of *plumbum* 30x stopped the vomiting and cured her constipation. The adjuvant treatment was rest in bed and a cool wet towel over the epigastrium.

She went on with her pregnancy in comfort, and October 16, 1906, I delivered her of a fine, healthy girl baby. I believe that in the former pregnancy had I prescribed *plumbum* before the fetus perished the outcome would have been equally gratifying.

The obstinate constipation and the peculiar stool were the most characteristic symptoms of the drug.



## DEATH AFTER OPERATION.

BY H. C. HINDER, M. D.

After every death following upon operative interference the operator has naturally a strong tendency to look round for a scapegoat, to discover by what means he may lay the blame on other shoulders than his own. If the death is due to sepsis he is inclined to blame his assistants, blame in fact anyone but himself, whereas he himself is alone in the wrong, because he should hold himself responsible for his assistants, for the preparation of the materials used, in fact for every detail involved in the scheme of attack on the pathological condition requiring surgical interference. He may apply any

salve to his conscience he pleases, but he cannot get away from the hard fact that the patient who intrusted his life in his hands is dead.

I consider that patients do not frequently die from one single cause, but that it is a summation of factors which brings about a fatal termination, and I feel quite sure that some of these do not obtain sufficient consideration at our hands. It is quite conceivable that while we may successfully combat the introduction of sepsis, while in a rough way we flatter ourselves that our patients do not die of hemorrhage, we may be neglecting some side issues, which though less important in themselves, would, if entirely eliminated, create a balance in the patient's favor and save him from toppling over the brink.

I purpose now to deal with some of these causes in turn, illustrating them when possible with cases of death or cases which narrowly escaped death in my own experience.

I do not think that it would be just that I should weary you with any lengthy extracts from Crile's excellent work on shock; those who are interested may read Crile's experiments themselves. It will suffice if we accept his conclusions. We recognize shock as the depression or the death brought about by a vasomotor breakdown following upon traumatism. The more highly sensitive the part or the more completely it is supplied with nerve fibers, the greater will be the amount of shock experienced by interference with that part.

The rougher and the more extensive the interference the greater the shock—that is to say, clean cutting and delicate careful manipulation will always produce less shock than forcible tearing and rending. The skin and the intestinal peritoneum therefore will need greater care and gentleness in their manipulation than will most other parts of the body. Shock will be much more readily produced by injury to the genitals and the skin about the feet and hands than in many other parts. It is true that injury to the genital skin produces a lowering of blood pressure by stimulating the splanchnic area so that the patient is bled into his own abdominal vessels, but this result is not so produced by stimuli applied elsewhere. An initial stimulus is instantly followed by a rise of blood pressure to be immediately succeeded by a fall, and each succeeding stimulus has less and less power to bring about a

reaction. Let me place before you a simple example. If a patient has four teeth extracted the first tooth is felt to produce a great amount of shock, but the removal of the others does not occasion anything like the same reaction. The depression goes on, but the sensation is dulled.

In operating within the abdomen, we must exercise the greatest care not to handle or expose the intestine more than can be possibly avoided. Trendelenberg must be looked upon by all surgeons as one of the benefactors of the human race in having drawn attention to this getting of the intestines out of the way and the many other advantages to be derived from the position to which we usually attach his name.

Every surgeon who has done much abdominal work must have noticed what a marked depression was produced by handling the intestines, and what a vast difference there was in the patient's condition when the bowels could be well walled off by a suitable position and the protection of properly adjusted gauze pads.

The shock experienced in these cases is, of course, due to the impulses received through the cistomithnic sensory nerves, so that the shock is due to a summation of sensory stimuli, not necessarily painful stimuli. A prolonged anesthesia must have a considerable effect in aggravating the general depression. An anesthetic continuously administered to a dog for ten hours will kill it. Probably at the end of two hours one-fifth of that effect has been produced. It is obvious, then, that the practice which obtains with some operators to have the patient's skin cleaned after he has come to the operating table is not necessarily a wise one, and that the operation should always be completed as rapidly as possible; similarly it is better for the patient if his operator discusses his condition with the audience after the operation than during the course of it.

Some years ago Professor Martin demonstrated to us the very powerful lethal effect that the absorption of blood serum might have upon a patient. He bled a dog and separated the blood serum. This was injected into the peritoneal cavity of the dog. The dog died from the absorption of its own blood serum. The importance of this cannot be too highly estimated. Let anyone take particular notice of a series of cases in which the operative treatment has necessitated such a considerable interference with the tissues as to leave a large amount of raw

surface. If this raw surface is in such a position that pressure may be applied by bandage so that there is but a very slight chance of the escape of serous exudation, there will be a very little, if any, rise of constitutional disturbance. If, on the other hand, the case be an abdominal one, where it is not possible to apply pressure to an extensive raw surface, and if, too, no drainage is used, the little rise of temperature, general sense of illness and languor will be distinctly marked, although the patient will run an aseptic course. I am well aware that some of you might say that no surgical operation is truly aseptic, and such is certainly the case; the mere exposure of the wound to the atmosphere for a few seconds is probably quite sufficient to allow the entrance of some organisms; but, nevertheless, these, while perhaps not absolutely harmless, if in small quantity do not account for the disturbance produced, for Professor Martin's experiment was performed with thorough aseptic precautions, and the absorption of the large dose was followed by death.

If any operator choose to select another abdominal case in which there has been established, as far as he can judge, the same conditions, and let him take steps to get rid of the serous exudation as soon as possible by efficient drainage, the difference between the after condition of the two cases will be most marked.

The depression is more noticeable after abdominal cases because the serous exudation is the more rapidly absorbed, the dose is large, and quickly taken up. I feel convinced that death after an extensive burn is not wholly due to shock, but also to the serous absorption which takes place. I speak, of course, of early death, before septic absorption of the products of organisms has become a feature worth considering.

We will not consider death due to the introduction of septic material, for it would necessarily open up too wide a subject, and deaths from such a cause must be very rare nowadays in the hands of men with any pretensions to a knowledge of modern surgery. We will merely consider the absorption of toxins from septic wound conditions already in existence. If a catheter is passed on a patient with stricture, the surface of the urethra is frequently abraded; within two hours he may become extremely ill, with a high temperature and a rigor. That man is not suffering from the effects produced by a dirty

catheter, but from the absorption of toxins already lying in his own urethra.

Reginald Harrison tells of a young woman from whom he removed a stone from the kidney. Some three months after her medical attendant asked him to again see the patient, as she still had a sinus in which he thought he could feel a small calculus. Harrison slightly dilated the sinus with a pair of sinus forceps and removed the stone. In 24 hours the girl was dead. She died of toxemia. Repeatedly I have been able to prevent the occurrence of rigors after catheterism for stricture by gentle manipulation and by injecting a solution of silver nitrate into the urethra with a view to cauterizing the surface and prevent the absorption of toxins.

I have only lost two patients out of 22 nephrectomies, and this record is certainly due to fortuitous circumstances. One patient died because both his kidneys were packed with stones right throughout the cortex to such a degree that the radiographer thought that they were merely kidney shadows. The symptoms were one-sided. The specimen is in the museum, and is a very remarkable one. The other patient died after a secondary operation. She had a long suppurating sinus leading down to the bottom of a very fibrotic and matted-down kidney. I endeavored, though unsuccessfully, by dissecting out the sinus to keep the septic material from contaminating the wound. The manipulation was severe, the hemorrhage very moderate, but a large absorbing surface had been established and the freest drainage was supplied. She simply developed a more and more rapid pulse, and died in about 18 hours. Without going into particulars of several of the other patients, I may say that they were of a somewhat similar character, and behaved somewhat similarly, too, developing a very rapid pulse, and giving one occasion for the greatest anxiety, barely escaping death. Taking into consideration one's knowledge of the amount of depression likely to be due to shock and the amount due to length of time of operation, anesthesia, and hemorrhage, the profound disturbance was, I felt sure, due to toxic absorption. Some tubercular, septic and malignant cases in which the kidney could be removed without disturbance of its contents recovered with far less constitutional disturbance.

Crile's experimental work goes to show that the removal

of ribs does not of necessity cause any greater shock than would be expected from the cutting of so much bone and skin. For my own part I have been greatly impressed by the profound depression which has existed after the removal of portions of several ribs in order to bring about a collapse of the chest wall in old-standing cases of empyema, though the operation was carried out with the special object of completing it quickly and with a minimum loss of blood.

In such cases it was hardly possible to avoid contaminating the wound, and the cavity was often curetted in order to establish a better healing surface, and packed with gauze to provide good drainage for the first day or so. I once opened a man's abdomen expecting to find an acutely inflamed appendix, but instead he had a strangulated knuckle of bowel, a Littre's hernia in fact, only as large as a hazelnut, caught at the internal ring and not perceptible externally. I drew this out into the abdomen, and about a desertspoonful of dirty fluid escaped. This was mopped up as completely as possible, but the man died within twelve hours. This would appear to account to some extent for the great mortality which attends internal herniæ. They die owing to the rapid absorption of the toxin let loose. I have on two occasions known an abdominal hydatid cyst to be ruptured by the too generous eagerness of students. A slight temperature and rash followed the accident. A woman doubted my statement that she had a small ovarian cyst as large as a hen's egg, and while endeavoring to demonstrate it to her the cyst ruptured. She had some pain and a temperature within three hours, which lasted two or three days. I heard of two women who died in a peculiarly collapsed condition after confinement. Post-mortem showed the presence of a ruptured ovarian cyst. I certainly would not call these deaths from shock, but much more probably are they due to toxic absorption. This would indicate that although the contents of an ovarian cyst may be aseptic they are by no means harmless.

A short time ago I operated upon a tubercular knee. The bone was sound and there was no sign of mixed infection. The skin was unbroken. Extensive tubercular collections surrounded and involved the joint. The patient's temperature was 100. I resected the joint and cut away the bulk of the tuberculous material. The whole operation was completed



without any fingering of the structures. The patient was put to bed. He sweated most profusely and continuously, had a very high temperature, and died in about 20 hours. He died of too large a dose of his own toxin. I think I have said enough to show that the patient's own toxins are well worthy the consideration of the surgeon.

Patients probably rarely die of a straight-out hemorrhage. I once operated upon a woman for ectopic gestation, who had only been ill  $1\frac{1}{4}$  hours. Immediately before she was fast asleep. At the time she was opened up she had widely dilated pupils and was throwing herself about the bed partly unconscious; her pulse was barely perceptible. A trifling amount of chloroform only was used. Blood was spouting from the ruptured tube. It was remarkable how steadily she rallied after the hemorrhage had ceased. The rapidity of the loss as well as the quantity was responsible for her grave condition. She recovered.

Only once have I been compelled to remove the kidney because of hemorrhage. An aberrant renal vessel of large size was severed, and the bleeding was fast and furious. On all other occasions, whether due to rupture from accident or due to surgical interference, suture or simple pressure against the muscles of the back with the hand right in the wound has most effectually checked it. Two patients with malignant disease and jaundice died of a continual ooze from the abdominal wound, in 24 hours and 36 hours respectively. Two patients, a child and an old woman, were in sad straits from hemorrhage from a simple abdominal wound. It took place so gradually that I failed to appreciate its importance. The wound was reopened and the blood-clot was wiped away. Not a bleeding vessel could be seen, and there was no further loss. The bleeding was kept up by the mouths of small vessels being held open by the distending mass of clot. A small fibroid was shelled out of the fundus of the uterus of a woman, sent to me by Dr. Lloyd. She was feeble and had suffered from long continued hemorrhages. A few hours after it was evident that she was bleeding. The abdomen was reopened and the blood wiped out. There could be seen a slight ooze from along the line of suture. The wound in the uterus was reopened and the deep and superficial catgut sutures renewed. In a few hours there was again evidence of hemorrhage, and

the abdomen was again opened and blood-clots removed, but hardly a sign of ooze could be detected along my second line of suture. The unfortunate woman succumbed very shortly after, although on this occasion I left a packing of gauze on the line of suture. There was no history that would induce one to think that she had been a bleeder, but I have observed that there is certainly a greater tendency to prolonged oozing in patients who have steadily lost a great deal of blood, and it would be advisable to give a few preparatory doses of calcium chloride before operating upon very anemic patients. This line of treatment is certainly of value in preventing death from hemorrhage where malignant disease is associated with jaundice. An operation which takes a long time is almost sure to be attended with a greater loss of blood than one which is accomplished quickly. A careful operator may be speedy just as easily as a speedy man may be careless. Over-cautiousness is not necessarily carefulness. Extending the time of an operation by delivering a clinique to spectators may be interesting to the audience, but by no means a good thing for the patient.

The administration of saline solution is always looked upon as the great reviver after hemorrhage, but it can only be justifiable during the course of an operation when all hemorrhage has been put an end to, as, for example, when a ruptured tubal pregnancy has been ligatured off. To administer a saline when there is still a great probability of further oozing from large raw surfaces is ridiculous, yet it is at times done. I have seen such an error committed, and I believe it had a great deal to do with the death of the woman a few hours after.

In cases of death from blood loss the heart fails from want of something to work on; give it blood or even give it saline, the mere presence of the fluid acts as a stimulus to further exertion, because it is capable of much further exertion. Raise the extremities and get the fluids to the heart; this alone, in cases where it might be considered unwise to administer saline for the reason already mentioned, will often be sufficient to keep the patient going until it may be considered advisable to supply fluids.

I have already made reference to death from toxemia, but I desire now to deal with a different phase of the subject. Septic peritonitis is answerable for a vast number of deaths,

and we are but on the threshold of our knowledge of the many peculiar phases of this subject. Hitherto the bacillus coli has had the unenviable reputation of being the cause of the greater number of deaths. The colon family is a large one, and we have no precise knowledge what members of the group behave particularly badly. The fact that a certain microbe is found in large numbers in the abdomen of a patient who has died of septic peritonitis is no reason for believing that that microbe was the cause of death; in fact, it has been lately urged that members of the colon group are distinctly inimical to the streptococci and other organisms. The virtues of the staphylococcus albus have lately been extolled, but in the present uncertain state of our knowledge I think that it would be wiser if we simply directed our energies to the getting rid of all foreign elements within the peritoneal cavity by the method which will insure the gentlest manipulation and the speediest completion of the operation. For my own part, I have tried all kinds of methods. Evisceration and careful cleansing of the whole cavity failed because the unfortunate patient became so reduced, mainly from shock, that he almost invariably failed to rally. Wiping and mopping out I found in extensive infections to be slow, damaging to the peritoneum, and by no means thorough, although in the more localized and early infections it was all that was required; but with extensive extravasation of fluid there was nothing like a thorough, gentle wash out by means of a long tube passed through an opening made in the left kidney pouch. Possibly some may say that the tube should be passed up from the lower wound. So it may, and the patient get well in spite of it; but there is no denying the fact that a clean tube passed through a clean wound in the loin and so establishing a gentle current through uninfected areas to those infected about the wound must be safer. Gentleness and rapidity are of immense importance.

I think we are apt to talk too glibly about general peritonitis with recovery. For my own part I am inclined to think that a true general peritonitis is always fatal. Numbers of cases of free extravasation of infective fluids are opened up and washed out, but most of those I have met with showed that the peritoneum presented an apparently normal surface; whereas, on the other hand, some fatal cases showed but a few coils of intestine deeply turgid and injected in the immediate vicin-

ity of the source of infection. I do not remember ever to have been sorry that I had drained, but I have been very sorry that I had not drained.

I can hardly go into the question of drainage very completely, nor do I wish anyone to imagine that I consider that every case should be drained. Apart from our desire to get rid of exudation products which are inimical in themselves and also afford pabulum for organisms introduced, or which may have been present already, unless we can be positive of the organisms with which we are dealing it would be wiser to make a clean sweep of them all. Some men think that it is a mark of brilliant surgery to use no drain, but rashness is often mistaken for brilliancy, and ignorance of danger is the parent of such rashness. Let the surgeon think what he would prefer if it were his own abdomen.

There is another phase of this question of death after operation which I think we ought to consider. It is possible for a man by very careful selection of his cases to have a very limited mortality indeed; but after all, our mission is not to establish records. Then, again, many patients die simply because they are left too late. It matters little whether they are cases of malignant disease or acute sepsis. The plea usually urged is that one need be so very careful how he approaches a patient with a view to obtain his permission to accept operation as the soundest form of treatment. The longer we live the more will we be forced to believe that this lack of decision and earnestness on the part of the profession is the cause of a very fair percentage of deaths. At the least men should insist that if their advice is not accepted the patient or his friends should bear the whole responsibility.

Very frequently the surgeon operates upon a patient when he knows that the chances of recovery are infinitesimal, or perhaps in his opinion they are absent, and he does so to save the attendant from any aspersions which might be cast on his diagnostic ability, while he has himself to bear the blame for the patient's death. If such accidents happened owing to the difficulty in arriving at a diagnosis they would be pardonable, but more often it is rather a lack of decision than of precision.

The title of this paper, as time went on, involved me in too many issues, so that I am afraid I have been somewhat too terse and at times have given merely a skeleton of my views.

A surgical death is a professional calamity. If the patient is about to die because of his own ignorance, stupidity, or obstinacy, we deplore the fact and do our best to save him, but we must do our utmost to prevent his death lying at the door of any member of that profession in which we urge the public to place implicit faith and confidence.



## OPENING THE POSTERIOR CUL-DE-SAC.

BY W. A. VERCO, M. B., CH. B.

In my probationary days the opening of the posterior cul-de-sac was never purposely undertaken, unless perchance as part of a very rarely performed vaginal hysterectomy, but nowadays it is of frequent occurrence in the routine of those who are intimate with diseases of women. In the practice of those outside this sphere of work it is, I fear, scarcely ever done, and one may confidently add, to the misfortune of many of their patients. There is no doubt but that this operation has a wide range of usefulness, and if more often performed it would not only allay a lot of unnecessary suffering, but would also be the means of saving many tubes and ovaries that are now sacrificed. The early opening of the cul-de-sac would prevent the further spread of many pelvic inflammatory conditions with their accompanying injuries to the generative organs. It would also arrest the further absorption of many injurious toxins, and thus save many very useful lives to the home and to the community. When acute inflammation attacks the adnexa, our aim should be incision and drainage. In these acute conditions, it is not only a conservative interference, but it is frequently curative in its results.

At one time all collections of pus and infective fluids were drained by a tube through the abdominal wall, leading down among the viscera to the pelvis. This was frequently followed by a toxemia caused by an infection of the more absorbent parts of the peritoneal cavity, and often proved fatal to the patient. If recovery followed, there was a dense tract of adhesions along the course of the drain, to the source of the trouble in the pelvis. These in their turn frequently

caused pain and abdominal distress, and occasionally intestinal obstruction. Besides these misfortunes, there was the possibility of weakened abdominal wall, and often a ventral hernia. Now, these pathological conditions should be drained by an opening through the vaginal vault. The advantages of such an opening are numerous. There is very little tissue to cut through, and scarcely any bleeding. Occasionally when there are adhesions the general peritoneal cavity is not opened at all; when it is opened, the risk of general infection is nothing like so great as when the opening is by the abdominal route. Again, there is less shock, and, above all, there is good drainage—drainage in the natural direction of gravity. There is practically no risk of hernia; and unless the opening has been made for some inflammatory condition, there are very few adhesions, and those that remain, unless kept up by the pre-operative condition, are frequently painless. Then, again, a patient operated on by the vagina can be up and about in a much shorter time than when operated on through the abdominal wall.

The opening of the posterior cul-de-sac may be made for many reasons: (1) For diagnostic purposes; (2) for acute inflammatory conditions and for acute infectious troubles; (3) for drainage of pus collections; (4) for removal of cysts and retrouterine and interligamentary growths; (5) replacement of malposed generative organs; (6) drainage after abdominal operations.

Taking the first condition, there are cases in which, after all our usual avenues of information have been exhausted, we are uncertain as to the exact condition of things in Douglas' pouch, or in connection with the tubes or ovaries. An opening in the posterior cul-de-sac and the insertion of a finger will often clear up the doubt and determine one's line of treatment. For instance, a woman came with a history of a short, sharp pain, occurring two weeks ago on pushing a perambulator over a little heavy ground. She felt slightly faint at the time, but was soon all right again, except for a little soreness in the left inguinal region, which has continued more or less ever since. Her temperature was 99.2°. She had a baby 4½ months old; she was not suckling; her courses were regular. The period had come on again at the proper interval, but instead of ceasing at the usual time there has been a little

dribble since. On examination, per vaginam, the uterus was not enlarged, was in midline, and to the left of the uterus was a small, indistinct swelling, which was very slightly tender. Diagnosis, a probable ectopic gestation. The posterior vaginal vault was opened, and black blood escaped; a finger was inserted, and the left tube was found enlarged and to contain a fetal sac and old blood-clot. Pryor says that if you are at all in doubt as to whether your patient has an ectopic gestation, make an opening in the posterior cul-de-sac and be sure. When once diagnosed, then you can remove it, if small, by the posterior opening; or, if large, then by the abdomen.

In the second condition in which we may open the retrouterine pouch the object is to drain away the poisons and their products which may have gained access to the pelvic peritoneum by means of the oviducts or by the uterine lymphatics, or by both avenues of infection. This, to my mind, is a very important class of cases, and should be dealt with promptly and boldly. This line of treatment was first suggested by Henrotin, and was developed and perfected by Pryor. It should be adopted in acute gonorrheal infections of the tubes and in infections the result of sepsis, as after abortions, confinements, or any other traumatic condition. It should be undertaken directly there is evidence of the poison having got beyond the uterus. When the cul-de-sac has been opened the tubes should be pulled down, the ostium opened and a small drain of iodoform gauze inserted. All adhesions are separated in these recent cases, the pelvis wiped dry, and the lower part of the cul-de-sac filled with 5 per cent. iodoform gauze. In all these inflammatory and septic conditions, the uterus is first curetted and lightly packed with iodoform gauze. The retro-uterine pouch should not be irrigated, as the fluid might escape into the general peritoneal cavity. The opening through the vaginal vault and the loose packing in the pouch allows free drainage, both from the tubes and from the lymphatics. The iodoform liberates free iodine, which exerts its bactericidal action on the germ-laden tissues around. I have had failures in both the gonorrheal and puerperal form of infections, but this was not the fault of the operation, but because the cases had been going on for too long a time before they had been seen. In the class of cases characterized by a collection of pus, if the pus is free or encysted in Douglas' pouch, the vaginal

opening is the very thing, and I have seen the patient get quite all right without any further interference. If the pus is in the form of a pyosalpinx, the patient, especially if of the better class, should always be given a chance of the trouble clearing up by such a conservative interference. The vaginal roof should be opened, and fair-sized openings made into the tube or tubes, breaking down all pus pockets, and then draining with a tube and iodoform gauze. Here the success will depend on the obliteration of the abscess cavities. It has struck me that whereas the continuance of the pain and discharge from these abscess cavities may be kept up by the diseased mucous membrane in the tubes, the result might be better if, after splitting the tubes, we curetted them, thus scraping the diseased membranes away. In these pus tube cases the results are generally better in streptococcal infections than in those caused by the gonococcus.

It is said that 50 per cent. of these pyosalpinx cases will be so much relieved by this procedure as to refuse any further operation. When one sees the mental and physical wrecks which often supervene in these young women on the removal of their ovaries and tubes, this result is well worth trying for. If pain continues, and the woman's health does not improve, then we must proceed to the radical operation, which too frequently means the removal of both tubes and ovaries. In abscess of the ovary it is better to drain by the vagina and use plenty of iodoform gauze in the upper part of the pouch on account of the usual virulence of the germs in these ovarian abscesses. The sac can be removed later if necessary.

Pus collections in connection with the appendix may also be drained by the vagina, as suggested by Moynihan; also very rarely, pus collections in this region caused by perforation of a duodenal ulcer.

In the fourth condition, that of the removal of cysts, the vaginal route is a very useful one in selected cases. Small cystic ovaries and hydrosalpinx may be readily removed. In fairly large ovarian cysts, if the outline is even, showing that there are not many secondary cysts, and where there is an absence of any inflammatory history, there may be removal through the cul-de-sac, adding the vertical median incision of Heurotin, if more room is needed. There was a case at the hospital, which had been sent in as a large pyosalpinx. She



had a temperature, and all the usual febrile symptoms, with pain and tenderness in the left inguinal region. On p.v. examination, there was found to be an oblong tumor in the pelvic cavity, placed more to the left side. It contained fluid, but seemed too well defined for pus. Under ether, an opening was made in the vaginal vault, and on insertion of the finger it was found to be an ovarian cyst with its long diameter lying across the pelvis. As it was free of any old adhesions, it was gently pressed into the cul-de-sac, and an aspirating needle inserted, drawing off about a pint of fluid. As the cyst emptied it was caught hold of by clips and pulled into the vagina. The ovarian vessels were ligated and the cyst removed. A couple of stitches closed the sides of the vaginal opening. The patient was practically well the next day. There was no shock and no ill after effects.

Hydatid cysts in the pelvis may also be treated through the cul-de-sac opening.

In cases of retro-deviation of the uterus, the vaginal vault having been opened, and the uterus, having been previously dilated and curetted, is replaced in its normal position, and is kept in the corrected position by gauze pads, until adhesions form between the cervix and the sacro-uterine ligaments and rectum. It is essentially a plastic operation, and in the hands of Pryor, who introduced it, has been very successful.

Another use which the cul-de-sac opening may serve, but which I have never seen advised, would be in cases of expected or commencing labor, where there is a lump in Douglas' pouch, which may prevent the easy descent of the presenting head. Here it might be found that the lump could be pushed out of the way by a finger or fingers in the posterior opening, and labor terminated, the tumor being dealt with at some future times. In one case, in which there was found to be a tumor in the pouch of Douglas, and labor commenced, the patient was allowed to go on all night to see if the head would descend. As it did not do so, in the morning all preparations were made for a Cæsarean section, and the patient placed under ether. Then with the hand in the vagina, the lump was manipulated out of the way, and the head delivered by forceps. Within two days there were rigors and a temperature up to  $105^{\circ}$  from inflammatory changes occurring in the tumor, which on removal proved to be a fairly large dermoid. Dermoid

tumors, if known to be present, should always be removed before the onset of labor. If small, they may be removed by the vaginal opening.

Another very important use for the cul-de-sac opening occurs in abdominal operations, in which the cyst may have ruptured during our efforts to separate adhesions, especially where it contained pus, or fluid undergoing degenerative changes—also where there has been injury to hollow organs, and again in inflammatory conditions occurring in hematomata, and in cases where there has been a lot of manipulation. In a large multilocular ovarian cyst, where the patient had been feverish for eight weeks, and which was undergoing degenerative and putrefactive changes, in endeavoring to separate adhesions down by the rectum, it burst, and the very evil and foul-smelling contents escaped into the abdomen. In this case in the subsequent hurry to get the cyst out, the right ureter was cut across. As the distal end could not be found, an opening was made into the base of the bladder, after having removed the body of the uterus, and the ureter was pulled into the opening by threaded catgut, and fixed there by sutures. It was as snug as possible, and tension was relieved by drawing the bladder over to the injured side. In this case part of the cyst wall, which was intimately attached to the rectum, was left behind, as there was a fear of opening the bowel. A large tube was run through an opening in the cul-de-sac from the operation area and the patient did splendidly, though, at the time, I feared that she had very little chance of life. In one ectopic case in which the right tube and ovary had been removed, and all loose blood-clot, the patient, after getting up at the end of the third week, had a rise of temperature, and the development of a swelling in the right fornix. Under ether, an opening was made in the vaginal vault, and the right broad ligament opened, and a tube inserted with the escape of fetid pus. She was soon convalescent. In another ectopic of the right tubo-ovarian variety, where the abdomen was full of blood and the patient very collapsed, the right adnexa were quickly removed, the abdomen washed out, and a tube put through into the vagina. The old clots broke down and formed pus of a fetid character. The vaginal drain was the safety valve that gave her life and health again.

In contrast to these cases, I might briefly mention two ex-

periences that occurred in my earlier days. In one the ovarian cyst burst before the operation, either while the patient was being given an enema, or during the administration of the anesthetic. The cyst was removed, the abdomen washed out, and a Keith's glass drainage tube inserted. She died in about a week. The other case was a fairly large ovarian abscess, which, during the process of the separation of adhesions, burst into the abdominal cavity. The cyst was removed, the abdomen washed out and drained through the abdominal incision, with a fatal result. There is no doubt in my mind that had I drained per vaginam, and omitted the washing out of the abdomen, both cases would have recovered.

This little operation, if wisely used, will save a large number of lives, and prevent a great amount of misery.

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## Current Comment.

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J. A. Hamilton, M. D.:

It is of great importance to study the symptoms of the accidents of **tubal pregnancy**. It is usually the accident of rupture that directs the woman's attention to her abnormal condition. The symptoms depend on the seat of the rupture. Rupture into the broad ligament is a much less serious accident than rupture into the peritoneal cavity. When the rupture takes place into the layers of the broad ligament, the hemorrhage is usually not so profuse, as it is controlled by the pressure of the surrounding structures; but when the gestation sac ruptures into the peritoneal cavity there is nothing to control the hemorrhage, and death may result in 24 hours, unless, as occasionally happens, the ovum plugs the rent in the tube. Immediately after the rupture into the peritoneum it is very difficult to palpate the blood in the pelvis, behind the uterus, before the blood becomes clotted. At first you can only feel an ill-defined fullness in the pelvis. If the woman survives the first loss, and the blood becomes solid, it may then be palpated as a solid mass, bulging into the vagina, in the pouch of Douglas, or in the lateral fornices.

As a rule, the symptoms caused by the rupture of a tubal pregnancy are easily recognized, but I have twice opened an abdomen thinking I had a ruptured gestation sac to deal with; in one case the symptoms were caused by an apoplexy of the right ovary, whilst in the other the symptoms were caused by leakage of infected material from an acute gonorrheal salpingitis. In this case there was a history of a missed period and several attacks of sharp abdominal pain, accompanied by irregular, blood-stained vaginal discharges. An examination showed a slightly enlarged uterus with some resistance, and marked tenderness in both lateral fornices. I suspected tubal pregnancy, and warned my house surgeon to be on the lookout for any acute symptoms. A few evenings after he rang me up to say that patient had been suddenly seized with agonizing pain in the lower abdomen, and a feeling as if "something had given way." She had marked collapse with a pulse of 150. I naturally thought my original suspicion of tubal pregnancy was verified. I lost no time in opening the abdomen. To my surprise, however, there was no blood in the abdomen, but both tubes were found slightly swollen and inflamed. On pressure a few drops of pus could be squeezed out of each tube at their patent fimbriated end. Evidently a drop or two of pus had leaked from one of the tubes into the peritoneum, causing an acute pain and collapse. Simulating, as it did, a ruptured tubal gestation, probably the irregular uterine hemorrhages were caused by the accompanying endometritis and salpingitis. A few days ago I saw a case in consultation. We agreed that her symptoms pointed almost conclusively to ruptured tubal pregnancy, and had her removed to the hospital at once. To make sure of my diagnosis I opened the posterior cul-de-sac, and found the uterus and appendages bound down by recent lymph; evidently there had been an acute salpingitis, with an escape of infected material from one or both tubes.

The case of apoplexy of the ovary was an interesting one. A lady whilst dancing was seized with a sudden acute pain in right side of abdomen, with a feeling of faintness and collapse. On examination next morning the posterior and right lateral fornices were found filled by a doughy mass. On opening the abdomen a quantity of dark blood escaped, giving exactly the appearance of a ruptured tubal pregnancy. However, on examination both tubes were found normal, but the right ovary

was the seat of an ovarian apoplexy, which had evidently caused an amount of hemorrhage, which is very unusual in this condition of ovary.

The treatment of tubal pregnancy is operative in all cases, as soon as the diagnosis is made or suspected. It is unwise to wait for reaction, as used to be taught when there was much shock. The symptoms are caused by hemorrhage, and it is in accord with general surgical principles to arrest hemorrhage at once. On opening the abdomen no time should be lost in looking for the ruptured sac and emptying out blood-clot, but the ovarian and utero-ovarian vessels should be at once clamped; then the danger of further hemorrhage is at an end. If there be much blood in the abdomen, large quantities of normal saline solution should be used to thoroughly wash out all blood and blood-clot, especially in the kidney pouches and under the liver, as this blood-clot is a ready pabulum for infection if left in the abdomen. The abdominal route is as a rule to be preferred in these cases, but if there is any doubt about the diagnosis, a vaginal colpotomy will clear it up. If the rupture is an old one and there is no evidence of fresh bleeding, a vaginal incision and clearing out all blood-clots will be sufficient, but as a rule the abdominal route is the safest way to remove the ruptured tube and secure the blood supply. Most of the cases of unruptured tubal pregnancy that have been operated on were not recognized until the abdomen was opened. The operation was performed under the diagnosis of pyosalpinx or some other tubal disease, which shows the value of the general rule to operate without delay for all gross diseases of the tubes, and the woman is saved the imminent dangers associated with a developing tubal pregnancy if an ectopic gestation sac is removed before rupture.

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T. Carwardine, M. D.:

There are two recent improvements in the treatment of **peritonitis** which deserve more than passing notice—the Fowler position and the Murphy treatment. The former consists in placing the patient in the upright sitting position as soon as possible at the time of or immediately after operation, so that the peritoneal exudation may gravitate to the lower abdomen, where drainage is provided for, away from the more dangerous epigastric areas.

In the Murphy treatment the proceedings are adopted in conjunction with the Fowler position. The principles involved are: (1) Rapid removal of the focus, with little disturbance of the peritoneum, and closure of the hole in the gut; (2) drainage—(a) suprapubic, (b) through the operation incision; (3) rapid operation, preferably through the rectus, and no sutures are put in; (4) no food is given by the mouth for two or three days; (5) continuous saline infusions by the rectum, which are administered by means of an irrigator and short vaginal nozzle having several lateral openings. They appear to reverse the lymph current in the peritoneum, to increase the peritoneal flow, to stimulate the heart and kidneys, and cause a greater eliminative excretion of urine. The object is not to cause the bowels to act, but merely to keep a supply of a few inches of saline fluid always in the rectum. Consequently, as a rule, the top of the fluid in the irrigator should not be more than 4 to 6 inches above the level of the anus. Milk or other suitable nutriment may be added. I regard this continuous rectal infusion as one of the most valuable suggestions of recent times. From 12 to 20 pints of fluid may thus be absorbed in the first twenty-four hours; the patient assumes a natural lively expression, and the tongue becomes moist. One has only to contrast the appearance of the patient under these measures with that under the former treatment—the dry tongue, restlessness, insatiable thirst—to appreciate its value. With all the main features of this treatment I agree, but scarcely with that of as little disturbance of the peritoneum as possible; for one has become bolder in that respect, as already stated, and I have every reason to be satisfied with the results.

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B. G. Thomas, M. D.:

In the fourth edition of Dr. Pozzi's deservedly popular *Traité de Gynécologie*, the author writes judiciously about the surgical treatment of inflammatory diseases of the appendages. He is not enthusiastic about resection of the ovary, and admits that ignipuncture, which he once advocated, has so often proved unsatisfactory in his own experience that he has almost abandoned it. Dr. Pozzi does not consider that the uterus should always be taken away when the appendages are amputated. It forms part of the pelvic floor, and therefore must not be lightly sacrificed. When adherent pyosalpinx is

removed, total hysterectomy may be demanded, else a pedicle of infected tissue will be left in the peritoneal cavity; in these grave cases Pozzi teaches that both vaginal and abdominal drainage are imperative. When the appendages adhere so closely to the uterus that the uterine tissue is lacerated during their separation, so as to involve the dangers of hemorrhage and infection of clot, Pozzi considers that subtotal hysterectomy is quite sufficient. The most practical question associated with tubal gestation is, naturally, the treatment of early rupture of the sac, a common accident seldom overlooked in these days. In the chapter on pelvic hematocoele, "of which extrauterine pregnancy is the most frequent cause," Dr. Pozzi admits that if the collection of blood when first discovered be well limited and firm, expectant treatment is justified. He disbelieves in the absorption of large hematocoeles, and advocates speedy operation when signs of hemorrhage are noted; it is true that he refers to "grave" hemorrhage, but a little further back he teaches that an unruptured tube diagnosed before the fifth month ought to be removed.



George Burford, M. D., and H. Wynne Thomas, M. D.:

Like a thief in the night, **extra-uterine gestation** oftentimes springs unpleasant surprises on those concerned, giving but the scantiest warning of its presence till the *dénouement* reveals the antecedents.

Shortly after mid-day on July 19th of this year, Dr. Madden telephoned that a case under his care presented all the symptoms of ruptured tubal gestation, and asking for operative procedure forthwith. Briefly, the history of the patient was that the last menstrual period had ended on May 9th, the June period had been missed, a "miscarriage" had occurred on July 6th, two months after menstruation; she had then passed a "membranous skin," stained brown, about two inches in length, with no clots and no pain. On July 11th a brownish discharge commenced, with severe aching pain in the right side. Vaginal examination showed a tender swelling on the right side of the uterus, and in view of the symptoms a provisional diagnosis of tubal gestation was made, and the patient admitted into hospital on July 13th.

The case was watched, and until July 19th no further symptoms of note occurred. But on the morning of this day severe

abdominal pain and collapse set in. At 1.15 p. m. Dr. Madden telephoned to Dr. Burford, asking for operative procedure without delay. A brief consultation was held about 3.30, the diagnosis confirmed, and arrangements for operation completed.

The patient was blanched to a degree, but quite conscious, and able to answer questions; *but there was no radial pulse*. Immediately on commencing operation intravenous saline transfusion was begun, and continued during the operative procedure; some four and a half pints in all were thus introduced into the circulation. This life-saving addition to the main operation was carried out by Dr. Wynne Thomas.

On opening the abdomen a gush of blood occurred, and a large quantity of clots was removed from the peritoneal cavity. The broad ligaments were immediately examined, and the source of hemorrhage found to be a ruptured tubal swelling on the right side. This was ligatured and removed, leaving the right ovary intact; the pelvis was well sponged of clot, the peritoneal cavity washed out with sterile water and the abdomen closed, in three suture layers, in the usual way. At the conclusion of operation the radial pulse was *of normal volume and of regular rhythm, beating 98 to the minute*. By the aid of the transfusion the radial pulse, completely wanting before operation, had been fully restored, and the stress of an abdominal operation under anesthetic thoroughly well borne. The anesthetic sleep was induced and controlled by Dr. Madden.

The patient made an uneventful recovery, and on August 14th was walking about. She was aged 27, had borne six children, the last confinement occurring two and a half years ago.

On examination the parts removed were found to consist of a Fallopian tube distended by a swelling—the size of a small walnut—near its uterine end. This swelling, on being cut into, proved to be a gestation sac, containing an exceedingly small embryo *in situ*. The period of this embryo was approximately that of the seventh week. The gestation-sac had ruptured, and the rupture was the cause of the mass of the extravasated blood.

It is notable how small a tubal gestation-sac and how recent a tubal gestation are competent to kill. Here, one period only



had been missed, but the issue was to place the patient perilously near the end of her existence. A case has come under our notice where an unfortunate patient died of ruptured tubal gestation, where actually no period had been missed, she being unaware of her pregnancy.

The second point remarkable is the general resemblance these cases have in their early stage to those of ordinary miscarriage. One or two missed periods, a brownish-colored discharge, the passing of some shreds of membrane, some hypogastric pain—these are the common characters of an ordinary miscarriage. Yet had not in this instance a careful vaginal examination been made, and the abnormal state of matters detected, the patient might, and in all probability would, have lost her life from sudden collapse.

The third noteworthy element is the care and success with which saline transfusion can be used in these grave cases, to tide the patient over a critical period when life is hanging in the balance. In this instance there was no pulse detectable at the wrist before operation; at its conclusion, as the direct result of transfusion, a good radial pulse of 98 to the minute was present.

♦ ♦

F. E. Sondern, M. D.:

I consider the recent advances in the chemical investigation of **urine in pregnancy** to be of high value to the obstetrician in his work. It is now a recognized fact that intestinal auto-intoxication, intestinal toxemia, or faulty intestinal metabolism, is the cause of a distinct train of symptoms and often explains other obscure manifestations. When it is recalled with what facility gastro-intestinal disturbances are occasioned in pregnancy and that intestinal autointoxication frequently seems to be the forerunner of the toxemia in pregnancy, if not more closely allied in the etiology, the necessity for early diagnosis of the condition is apparent. The diagnosis is assisted by the recognition in the laboratory of a relative excess of ethereal sulphates in the urine. Every examination of urine in pregnancy should include a test for indoxyl sulphate and skatoxyl sulphate. A quantitative estimation of the mineral and ethereal sulphates is more accurate, but too laborious for the clinician. A depression in the ratio of mineral and ethereal sulphates, or an excess of indoxyl sulphates in the urine, being

accompanying factors only, and not directly concerned in the causative element of the symptoms, may be brought about by other causes and do not necessarily indicate a specific pathological process. Their corroborative value in the diagnosis of intestinal autointoxication is undeniable.

It is now admitted that the appearance of albumen and casts in the urine does not necessarily indicate an inflammatory lesion of the kidney. A normal kidney with normal circulation, innervation, and blood does not excrete albumen, but slight disturbances of the circulation, or innervation, or in the quality of the blood may cause the kidney to pass albumen with or without casts, thus indicating disturbed function, not necessarily an inflammation of the parenchyma. Faulty body chemistry, chemical changes, or toxins in the blood may result in albuminuria with casts; about 50 per cent. of pregnant women show it at some time during their pregnancy. The special causes are to be found in circulatory disturbance, faulty innervation, irritating excretory products, and increased functional activity. The numerous possible causes complicate diagnosis, and the apparent physiological retention of nitrogen towards the end of pregnancy adds another difficulty. The pyelitis of pregnancy resembles typical pyelitis generally; there is almost invariably a bacteriuria, generally due to bacilli of the colon group. Transitory glycosuria is not uncommon and accompanies other faulty metabolism. Diabetes mellitus takes the same course in the pregnant as in the non-pregnant, and exacerbations are as liable to occur in the one as in the other; when parturition is approaching, the attention should be directed toward avoiding an acidosis.

Discussion on this part of the subject centers on which element of the faulty metabolism is most constantly found in the urine and if the degree of its presence is a true indicator of the degree of toxemia it accompanies. One observer laid stress upon the relative amount of amido acids, another upon the relative amount of ammonia, while others consider the degree of acidosis a guide to the severity. When the toxemia of pregnancy occasions symptoms other than hyperemesis, there may be neither starvation nor inanition, but there is invariably acidosis. Partial starvation, inanition, and many other causes may occasion the same changes in metabolism noted in the toxemia of pregnancy; these changes must therefore

be considered an aid in diagnosis and a positive indicator. Proof is lacking that the degree of fault in the nitrogen partition or the type and degree of acidosis is always in direct ratio to the degree of toxic infection, and patients vary in susceptibility to this as to other toxins.

The routine examination of the urine of pregnant women should include a search for evidences of faulty metabolism; on the occurrence of any of the clinical signs of toxemia the degree of acidosis should be determined, and should this increase, then a repeated nitrogen partition will help to determine the point beyond which it is not safe to allow the patient to go.

♦ ♦

F. D. Smythe, M. D.:

Concerning the operation of **hystero-salpingo-oöphorectomy**, what I have to say applies more particularly to the operation for **fibroid tumors of the uterus** in uncomplicated cases. Of course, the technique is the same in complicated cases after the complications have been met and properly dealt with.

1. Long incision in the median line. A long incision is an incision that extends up to, or as far above, the umbilicus as is necessary to properly and completely expose the pathology for inspection.

2. The immediate adoption of the Trendelenberg position. This is usually accomplished by the anesthetist about the time the peritoneal cavity is opened by the surgeon.

3. The next step is taken for the purpose of retaining the intestines and omentum in the extreme upper end of the abdominal cavity. This is accomplished with lap sponges. I prefer the single long sponge, say about nine feet long and six or eight inches wide, made of gauze, to the method of using several smaller ones. It has proven more effective in my hands in maintaining the viscera away from the field of operation, and obviates the possibility of a sponge being left in the abdominal cavity after completion of operation, which accident has happened in the hands of many.

The patient is subjected to danger from four sources in undergoing an operation for fibroid tumor:

1. The danger attending the administration of the anesthetic.
2. Hemorrhage.
3. Intestinal paresis.
4. Peritonitis.

The dangers incident to these four causes diminish greatly with the accumulated experience of the surgeon in the treatment of such cases, so that death, when occurring, should be attributed to unavoidable causes, for, with proper care on the part of the experienced anesthetist, where ether is used, there is no mortality from that source, and the risk of hemorrhage is so remote that it need hardly be considered as a possibility. By carefully protecting the abdominal viscera from exposure to the atmosphere, with a minimum amount of handling, the avoidance of all possible trauma, both of which can be accomplished by the use of the sponge above referred to, with the patient in the Trendelenberg position, and completing operation with as little delay as is possible compatible with thorough work, reduces trouble as result of paresis to a minimum. And, in the hands of a man with an aseptic conscience, peritonitis should be unheard of following an operation in a clean case.

The surgeon should always adopt the simplest method possible when deciding upon operation, because the simplest is the quickest, and the quickest is the safest, and I think is as follows:

1. Ligation of the infundibulo-pelvic ligament through the open space as close to the ovary and tumor as possible, ligature including the ovarian segment of the utero-ovarian artery.

2. The ligature-carrier is passed through the broad ligament some distance below the round ligament, with its accompanying funicular artery, which vessel is of good size and rather constant, and as near the tumor or uterus as is practicable.

3. The next and third ligature, which is the last one needed on the first side, is introduced close to the uterus so as to include the uterine artery at the first portion of the uterine segment of that vessel, which is situated one-fourth of an inch from the uterus at that point. But a few minutes are required to accomplish what I have just described in an uncomplicated case, and the opposite side is treated in the same manner. No blood has been lost at all thus far, and the fear of hemorrhage in the future does not concern the surgeon.

Sero-serous flap is now created and the cervix is amputated flush with the bottom of the basin, the cervical canal promptly cauterized with carbolic acid and the approximation of the sero-serous edges across the bottom of the pelvic cavity is

now begun. Good strong silk sutures are employed, three on either side. Occasionally a small vessel has to be ligated, and in such event catgut is generally used.

The ligature around the infundibulo-pelvic ligament is now drawn downward toward the median line, somewhat taut, and is buried between and beneath the layers of the broad ligament. This is rapidly and easily done.

The ligature around the ligated funicular, with its round ligament, is now reached and given the same treatment, so with the ligated uterine artery. With the continuous suture the anterior and posterior flaps (sero-serous) are brought together over the stump, which is pierced on either side of the cervical canal so as to obliterate dead space. The opposite side is treated in a similar manner, leaving not the slightest raw surface exposed. Catgut, plain, is used for this purpose.

The inverted pedicles, with their blood-vessels properly and safely secured with silk, can do no harm. They are extra-peritoneal and do not interfere in the least with the cosmetic effect of the operation, nor, so far as I have been able to judge, with the comfort of the patient. Perhaps the majority of surgeons prefer to use catgut or some other absorbable material, but I simply feel better and sleep better after having applied a good silk ligature to such size vessels as the important ones to be ligated when doing a supra-vaginal hysterectomy.

The nearer to the uterus and tumor the ligature can be safely placed, the shorter will be the incision from side to side, and the less time will be required to approximate the edges of the broad ligament. This is a simple suggestion, but in a series of cases it will certainly have its weight in determining results.

A thorough knowledge of the exact source of blood supply to the uterus and tumor contained therein and the exact location of the different segments of the utero-ovarian artery are essential for the safe and speedy performance of this operation. When such exact knowledge is possessed by the surgeon he is at all times complete master of the situation, and such an one will be seldom called upon to sign a death certificate following the operation for fibroid tumors of the uterus, notwithstanding the fact that an occasional death is unavoidable, as

result of degeneration of liver and kidneys and brown atrophy of the heart.



C. B. Williams, M. D.:

My conclusions after **ten years of experience in obstetrics** are that lysol in from 2 per cent. to 5 per cent. strength has proven very satisfactory to me to clean my hands before examining a case of labor. It is a good germicide, a lubricant for the examining finger and in the winter time the hands do not chap and crack like they do after using bichloride of mercury, the last mentioned being an important item. But bichloride of mercury is better to leave with the nurse to keep the external genitals clean. It is more elegant and it does not mask the odor of the lochia.

That after introducing anything, hand, gauze, or instrument, into the interior of the uterus during or after labor, it is always best to give an intra-uterine douche under the strictest antiseptic precautions, especially to boil the rinsing curette or douche nozzle and all instruments, and not depend upon simply soaking them in the solution you are intending to use. Creolin has never failed me yet in preventing infection, where I have used it in such cases.

That the vaginal douche answers a good purpose often where you fear infection or have a perineal tear, but it should not be used except by a trained assistant or by the physician himself, and then only in special cases, for I have seen infection from this very cause, I believe.

That the perineum should be repaired if badly torn, using silkworm gut for sutures, provided you have a trained assistant, who can keep the woman as near surgically clean as possible, or the physician himself can attend to the douching, etc. Otherwise, I believe it best to leave them unrepaired, hemorrhage excepted, touching the surfaces of the tear with some antiseptic astringent—like iodine—and repair later.

That forceps should not be regarded as an instrument of torture, but as a life saver, both for the mother and the child—saving often hours of anguish, and, perhaps, precious blood from uterine inertia for the mother and the very life of the child itself.

That chloroform has so far been safe in my hands and has

saved much suffering and many tears of the perineum. It is seldom indicated in a multipara.

That I have seen viburnum-prunifolium relax a rigid os fully and quickly.

That the bowels should have attention before the historical "third day" and many of your patients will escape the malaise, headache, and rise of temperature that may come from a loaded bowel.

That a saturated solution of boric acid kept constantly applied on lint to fissured and sore nipples, combined with rest for the organ a few days, with breast pump and nipple shield, is about the best treatment for fissures of nipple, and will prevent mastitis in most cases. If the breasts become lumpy, massage them with olive oil, stroking towards the nipple to unstop the milk duct that is clogged.

That the best way, in my opinion, to avoid a perineal tear, when you fear one, is to have the woman let go any one's hands she may be holding, open her mouth and cry out instead of straining, the doctor holding back the child's head at the height of the pain; and just when the head is ready to pass the perineum shell it out between the pains, while crowding the chloroform a little. I know the authorities advise us not to tamper with the head at this time, but I shall continue to do this in the future until I can find out a better way.

That it is a risk to leave multipara, even though the pains are lagging and be gone, for any great length of time after the cervix is dilated or dilatable one and a half inches, or more.

That I believe it is best, in selected cases, of course, where the perineum is not torn—where you do not fear a hemorrhage and when the circulation is good—for the woman to be propped up early, as soon as she feels like it, and to use the chamber instead of the bed-pan, for she will get more exercise, can sit up sooner with less danger of syncope; she retains her strength better, drainage is ideal, and this lessens the danger of infection from retained vaginal clots.

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E. B. Smith, M. D.:

When we remember the activity of the lymph-spaces, the workings of the vascular ductless glands, the physiologic

preciseness of all the other glands, and know that all this constitutes probably the greater part of metabolism, we wonder why more has not been written on the **treatment of glandular inflammation**. Long ago the treatment was poultices. These were of endless variety. The first advance was made when the fatty degenerated gland, the pus gland, and even the enlarged painful gland was lanced. This was once thought to be, and is to-day by some, advanced surgery. I think we should decry such treatment, as we have decried treatment by poultice, and advise the practice of enucleation. There is no question about the fact that poulticing was poor treatment, nor is there any questioning the fact that the incising of suppurating glands is just as unskilled treatment.

It may be possible, where one has a low pathogenic infection of a gland, that heat in some form applied would assist in bringing about resolution. When there is considerable hyperemia, causing much tension, an incision into and extending through the cortical substance of a gland, and far enough into the tissues beyond to relieve all and any tension within or about the gland, may be made. If it is done with due antiseptic precaution, and the pathogenesis is not virulent, we may expect to get relief from pain and rapid resolution. But where the invading organism is of a virulent type, the treatment by poultices or by incision will result in prolonged suppuration, with pain and its attendant inconveniences, and the result will always be a disfiguring, irregular scar or scars, which bind down the integument to the fascia, muscles, or other tissues beneath it.

I wish to urge that which a great many of us practice—the enucleation of inflamed suppurating glands. It is needless to say that there are conditions where this must not be done. Where we have a hernia and the protruding tissue irritates a set of glands, then the hernia, and not the glands, must be taken care of. But where the inflammation has gone on to the stage where resolution will not be brought about by poulticing, or to where a simple incision will not affect a cure, where the tissue has broken down, or an accumulation of germs has taken place, then the only logical procedure is a radical operation—one in which any glands found beyond hope of repair are excised, where a large number of germs may be gotten rid of, and where the remaining tissues may



be treated antiseptically and repaired. This makes an ideal operation.

Repeated attacks of inflammation make the glands weak and susceptible to disease and suppuration. When glands are incised the inflammation and suppuration subside or become quiescent for a time, and then from slight trauma again inflame and suppurate.

Tuberculosis, syphilis, and carcinoma spread from one gland to another, but it is not so with micrococci. The glands here take up the pyogenic organism and hold it fast for a considerable period.



A. J. Skeel, M. D.:

The best method of handling cases of pregnancy with various degrees and kinds of contracted pelvis is, and must always remain, a matter to be decided by the judgment and experience of the operator. Every operator, however, has in mind certain principles of treatment which have been evolved not only by his own experience but by the accumulated and recorded experience of others, which point out the ends to be attained, results to be expected, and dangers and complications to be avoided by certain methods of procedure.

My own practice is as follows: When a pregnant primipara presents herself, she is examined as early as possible. At this time the pelvic measurements are carefully taken. If they are normal she is examined again two weeks before term to determine the presentation, and to ascertain that there is no excessive growth of the head, etc. If, however, her pelvic measurements show a moderate degree of contraction she is again examined six weeks before term and if possible thereafter, weekly.

Under no circumstances do I allow such a case to run beyond the expected date for labor unless the head is positively small enough to engage.

However, unless the relative size of the head is quite excessive, I allow primiparous women to go to term in order that they may have the test of labor.

If the head is so large at the 36th week that I am convinced a live child cannot be delivered at term, I induce labor at as late a period as may be, always later relatively than in a multipara.

If the patient be a multipara with one or more normal labors to her credit, I proceed as stated above for a normal primipara.

If the patient is a multipara with a history of previous difficult or obstructed labors, I make weekly examinations after the 34th week to determine the best time for interference. Earlier than the 34th week I do not induce labor to save the child, because I believe that in those cases in which the disproportion between the child's head and the mother's pelvis is so great that it is already marked at the 34th week, other operative procedures are preferable to induction of labor. If, however, the head may still be engaged at this date, or later, or failing to engage it, no distinct over-lapping of the pubis occurs until after this date, I believe induction of labor to be the best method of procedure. It is needless to state that this should be done at as late a period as possible. We shall regret too early interference much more frequently than delay.

The one serious objection to the procedure, the prematurity of the child and the consequent high mortality rate, should be the subject of serious preparation. The incubator, if possible, with a skilled attendant should be provided. The supervision of a trained nurse is desirable for one or two months after delivery, not only to give the child its proper care, but to demonstrate to, and teach the parents the right methods.

It seems to me that it is a matter of vital importance that the mother should be taught by daily example extending over a considerable period just how the child is best cared for. A large proportion of deaths among full-term children during their first year are due to the ignorance of parents with regard to feeding, dressing, and general hygienic management. How much more important it is that a delicate premature child should be cared for intelligently.



E. H. Tweedy, M. D.:

I will cite some instances of radical changes in **gynecological practice** effected within the last four years. Rubber gloves are now universally worn not alone in abdominal but also in vaginal operations. The rinsing of the cleansed hand in methylated spirit and the partial filling of the gloves with similar fluid enables them to be readily slipped on, and secures an almost asptic condition of their contained fluid contents,

even after they have been worn during a two-hours' operation; thus injury to the glove is not fraught with fear of septic infection through oozing of its fluid contents. Much of the elaborate ritual formerly considered necessary in hand washing is now superfluous. Skin maceration in the neighborhood of the field of operation is prevented by painting the surface over with a saturated solution of picric acid in spirit. This solution is also of great use when applied to papillary erosions of the less chronic type.

In vaginal surgery the field of operation has been rendered more sterile by the clipping of a strip of boiled Bilroth tissue across the perineum to shut off the anal region, whilst the bags which enclose the legs are now connected with an abdominal apron which prevents the operator's hands being contaminated in the event of his having to pause in the midst of an operation to make a bimanual examination.

The large semilunar incision of Strassman provides a rapid and ready method of separating the bladder from the cervix, and performing extensive operations through this route. For vaginal fixation the older T-shaped incision is to be preferred, but here again an improved technique is adopted in that the peritoneum is now insinuated between the vaginal wall and the fixing sutures of the uterus. The technique for the cure of cystoceles and rectoceles has been much improved—in the former by tucking up the bladder and rolling it inwards on itself with fixing catgut sutures, and in the latter by joining again the fibers of the levator muscle and pelvic fascia.

The vaginal operation for cancer of the uterus is much more extensive than formerly. Pus tubes are dealt with in a way that almost ensures a safe recovery. If very acute the abscess can be opened by entering the abdomen through the posterior fornix, and directly draining through this hole. If a relapse take place the pus is rendered less septic, and the case may be considered alone amenable to the more radical operative procedures. In this eventuality I strongly advised the splitting of the uterus in two halves, the insertion of the whole hand into the abdominal cavity, the breaking down of adhesions, and the forcible dragging out of the diseased tube with its attached half of the uterus, the clamping of the tubes outside the vulva, the pushing of the clamps into the abdomen, and the insertion of iodoform gauze between them. *Atmocausis* has

enabled many hemorrhagic cases to be cured that formerly would have required removal of the uterus.

Through the abdominal route pus tubes can be removed with greater safety than formerly by the plan of splitting the uterus down the center, and removing them together with that organ. Ovaries are freely resected rather than sacrificed. Raw surfaces are covered over with peritoneum. It is now a matter of indifference (so far as the primary operation was concerned) as to whether the uterus be removed with or without its cervix. Both operations have become easy and safe in their performance, whilst unpleasant after-symptoms have been obviated by the non-removal of the ovaries. In spite of this advance the operation is less often done than formerly because of the advantages offered by myomectomy as now performed. Operative treatment for cancer of the uterus has been revolutionized. Formerly, if the organ was fixed, could not be readily pulled down, or had its cervix badly eroded, surgical relief was unobtainable. It is pleasant to contemplate that gynecologists are no longer deterred from relieving the suffering woman, even though prolonged immunity from the disease may not be promised. The three-layer method of suturing the abdomen has made it possible to operate without any fear of a subsequent hernial formation, and the subcuticular skin suture threaded through a leaden plate placed on the wound throughout its entire length had made scar deformity a negligible factor.

Fowler's position, too, was employed from the first in these cases, and Moynihan's enthusiastic advocacy of continuous rectal irrigation on the appearance of the earliest symptoms of abdominal sepsis had in all likelihood provided another valuable therapeutic agent.

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Thos. Bowles, M. D. :

The most useful remedy in relieving despondency, fear of impending danger and mental gloom, conditions so frequently met with in diseases of women, is **pulsatilla**. It is a tonic to the reproductive organs, and is useful in restoring the mucous surfaces of the genitalia to a normal condition, when they are found to be unduly relaxed and leucorrhea is abundant. It may be used here as a local wash, as well as taken internally. It is probably the best remedy we have to influence the ovaries,

relieving quickly those conditions which act in a reflex way upon the mind, causing mental forebodings of impending danger. We would administer it to relieve the headache of the menstrual period and of the menopause. Its effect is just the opposite to that of gelsemium, and it should never be combined with it. Anemia, rather than determination of blood to the brain; menstrual and ovarian wrongs, associated with the mental condition of fear of impending danger and despondency, will usually indicate the use of the drug so plainly that one can hardly make an error in its administration.

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Charles Rosewater, M. D.:

The treatment of **puerperal sepsis** may be prophylactic and real, the prevention of the infection, or the treatment of the already infected patient.

Prophylaxis should always be our aim, and should involve the careful supervision of these cases through pregnancy, correction of any mal-positions of the uterus which tend toward vascular stasis and congestion; keep her eliminative organs active, skin, kidneys, and bowels, and carefully examine her from time to time so as to be able to keep and put the entire system into the very best condition to withstand the wear and tear of childbirth.

The urine should be examined every two or three weeks during the latter half of pregnancy not only for albumin but also its specific gravity taken, to see whether the uric acid salts are properly eliminated. The nervous system should be kept free from excitement or strain, late hours of retiring should be discouraged.

In his attendance upon an obstetric case the physician cannot be too careful in regard to his personal cleanliness and asepsis. If he has a septic case on hand he must not go to a birth before he has taken a full bath, complete change of clothing and scrubbed his hands and forearms thoroughly with a good stiff nail brush and sublimate soap. Even then in many cases the use of rubber gloves is advisable, though I do not wear them in every case.

At the beginning of labor the patient should, if possible, be given a full bath, with a good scrubbing of the vulva and nates and thighs with sublimate soap. Also a copious rectal enema of soapsuds and water to thoroughly empty the bowels.

After the child has been born and the placenta delivered, the patient should be carefully washed off with warm bichloride solution and a pad of absorbent cotton wrung out of 1-1000 bichloride placed over the vulva, dry absorbent cotton over this and an obstetric bandage snugly adjusted around the abdomen with the T piece retaining the vulva dressings. This T piece is opened every four to six hours in order to change the vulvar pad. The vulva is cleaned whenever defecation or urination occurs, and a fresh pad applied.

If a pus tube is found during pregnancy its immediate removal by laparotomy seems imperative, in view of the great danger of its presence at childbirth and the utter impossibility of safely protecting the patient against such danger in any other way.

The treatment of puerperal sepsis actually present may be divided into constitutional with the approved remedies and local. It being presupposed that a correct differential diagnosis has been made and all other possibilities excluded.

The local treatment involves washing of the infected area, where it can be reached, by bichloride solution, 1-1000 if vaginal or vulvar, or by pure sterile hot water if intra-uterine.

The cauterization of the puerperal ulcers with carbolic acid and tinct. iodine (equal parts) and the application of moist bichloride dressing. Where there is any tendency to diarrhea or kidney trouble, bichloride should be avoided, boracic acid substituted.

The uterus, if infected, should be washed out with hot sterile water, and if this does no good within twelve hours, a dull curette should be used carefully, and thoroughly preceded and followed by the intra-uterine douche.

I am opposed to the use of the sharp curette in these cases on account of its liability to penetrate through the protective walls of leucocytes into the deeper uterine structures, and thereby open up new avenues for the spread of infection. The sharp curette has its place where indicated in the non-puerperal uterus and in the uterus not softened by the septic process, but in the latter it is a decidedly dangerous instrument and should be condemned.

When a pelvic abscess develops it should be opened through the vaginal vault, washed out with hot boracic acid solution,

and drained. When a pelvic exudate, non-purulent in character, develops it should be treated by absolute bed rest, hot vaginal douches and hydriodic acid internally. The latter will cause the absorption of the exudate in these cases and thus prevent the subsequent adhesion of abdominal or pelvic organs, which we meet so often as the result of inflammatory processes.

This same remedy applies equally well in the convalescent stage of all inflammatory conditions about the pelvis and abdomen, when adhesions are liable to occur as the result of the organization of the inflammatory exudate. While this exudate is fresh it can be absorbed by the aid of moist heat and iodine, but when it becomes organized its absorption is next to impossible.

Extension of the septic process to the veins of the pelvis leads to phlegmasia alba dolens, or milk leg, and requires for its treatment absolute rest, elevation of the limb, and general supportive treatment. Metastatic abscess requires surgical treatment, each according to its special indications.

Last, but not least, I want to warn against the too hasty resumption of the erect posture and the too early return to work in these cases of sepsis, as it is just here where we get the sudden deaths from embolism when the patient was thought to have recovered.

♦ ♦

James Oliver, M. D.:

External hemorrhage is not only the most important but the most common premonitory symptom of **abortion** and although it may be induced in a variety of ways, atony of the uterus is its most frequent cause. Under such circumstances it may appear as early as the sixth week of pregnancy, about the time when the serotinal vessels begin to undergo rapid enlargement in response to the stimulation of the placental chorion. Calcium and potassium are two very important constituents of the muscular substance of the uterus, and on account of some deficiency of these or the presence of some toxic material the tone and responsive power of the organ may be so impaired that blood may be extravasated and may escape externally. When hemorrhage thus results we should endeavor if possible to reinstate the uterus by removing deleterious materials and supplying those which may be deficient, and with this object we may administer potassium iodide,

calcium chloride, potassium chlorate, and the like. When the muscular energy of the uterus is impaired there is often enfeeblement of the nerve energy also, and with the above we may give strychn., ars., and phos. in some form.

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C. W. Barrett, M. D.:

Our present conception is not that an infection bears the relation to **pelvic inflammation** that a match does to a fire, but that it bears the relation that a fire does to a fire department. Just as the fire calls out the fire department, so infection calls out the phagocytes. Just as the firemen are sometimes destructive, so inflammation, the opponent to infection, is sometimes injurious to certain structures. But just as the fireman's primary duty is to save, so the inflammation is primarily a protective process. I have laid some stress upon this phase of the question, because its recognition gives us the only correct conception of the pathology and treatment. This conception of the protective influence of the inflammatory process toward the individual obtains so long as the field of action lies in organs non-essential to life. When vital structures become the seat of this primarily protective process, the inflammation itself may help to destroy life.

The isolation and identification of numbers of germs have given us a new conception of the relations of infection and inflammation. The recognition of the tubercle bacillus has led to the discovery of new avenues of infection.

The puerperal period, including abortion, is fraught with increased dangers; first, because of the increased opportunities for the introduction of infection, and second, because of the altered conditions found. The uterus, instead of being small, with its avenues for infection closed and cells healthy, is large and soft, with the avenues for infection open and many cells traumatized and degenerated, which furnishes a fertile culture medium. With the onset of puerperal infection, we had best see that the uterus is free from foreign material. It should then be made as near as possible the size and consistence of the non-puerperal uterus. Ergot at once reduces its size and closes many avenues. One or more intrauterine douches may be given.

For years I have used a solution of tincture of iodine, one



teaspoonful to a pint of water, after infected abortion or delivery. The curette or forceps or finger is used to rid the uterus of foreign material, but not to attack the wall of an infected, acutely inflamed uterus. Sometimes hysterectomy is performed during acute active infection, but when this is done, it should be with the distinct view of removing the infection in the uterine wall, rather than getting rid of an inflamed uterus. If the infection has invaded structures extensively outside of the uterus, and if the patient is generally septic, we should fear lest the hysterectomy do harm rather than good. If we can determine that the infection will be largely removed by the removal of the uterus, and the patient's condition is such as to warrant so radical an operation, yet such as to enable her to undergo so extensive a one, hysterectomy may be permissible.

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R. E. Skell, M. D.:

If my deductions are correct there is just one unmistakable **indication for therapeutic uterine curettage** and that is the one for which the operation was introduced by its originator: viz., to remove from the uterus growths causing hemorrhage. There are one or two others, sterility and the temporary control of hemorrhage from uterine tumors, which show some not very definite basis for their existence, but the common and most used are without any justification. What then are the reasons for the widespread belief in curettage as a therapeutic measure? Undoubtedly there are many contributing factors, such as the common tendency for medical and surgical measures to run to extremes, the prevailing idea that the operation is a minor one and can do no harm if it does no good, rarely it may be abused for the sake of the fee.

On the whole, however, its great vogue may, I believe, be attributed to four factors: suggestion; cathartics and regulated diet; enforced rest in bed; and, more potent than all, the complete change of environment and surroundings. The element of suggestion brought about by the fact that an operation has been performed and that a cure is expected for the vague feeling of discomfort from which the patient has suffered is by no means a small one. Neither is the vigorous catharsis which relieves the stercoremia from which so many women suffer, together with improper and over or under feeding

from which the wealthier and poorer classes respectively labor. Enforced rest in bed alone would relieve many an overworked woman of the middle and lower classes, but with all this, that factor which permeates all classes, from the highest to the lowest, which saps the vitality and undermines the health of more women than any other cause not actually organic in its character, is nerve strain. The ambition to dress as well, to live as well, to shine in the society of the stratum just above, and the pressure of living day after day with these things just out of reach, is responsible for a vast number of vague discomforts from which women suffer and which they have been erroneously led to believe are associated with some mysterious ailment of that mysterious organ known as their womb. Under these circumstances it is not strange that a sudden diversion of the mind from its accustomed pursuits to the environment of the hospital should result in a decided change for the better in all their physiologic functions without the operation in itself having had any direct influence.

Such cases as these belong rather to the internist and neurologist than the surgeon, and they should recognize the fact that drugging alone has but a limited field of usefulness in conditions whose primary origin was mental and whose uterine slant has been brought about by the notion that a woman is merely an organism around a womb.

My conclusions are that obstetrically curettage has a well-defined use in the removal of the products of early conception the remnants of incomplete abortion.

Occasionally it may be useful after later miscarriages or even full term labor to remove material out of reach of the finger.

At the outset of puerperal infection it may do harm, but usually does good. Later it is positively contraindicated.

Gynecologically it has one well-defined use in so-called hemorrhagic or polypoid endometritis manifested clinically by bleeding.

Its wide vogue in other disorders is not due to benefits derived from the operation, but from the associated change in environment and suggestion.

Large numbers of women who are now subjected to this so-called minor operation are medical, not surgical, patients.

J. F. Highsmith, M. D.:

To what extent should we be conservative, to what extent radical with our **surgery in the treatment of ovarian diseases?** This is a subject which has been, and is of great interest to the gynecologist—and in fact to the profession at large. As the years roll by and the pendulum of opinion, moved by personal experience, swings to the extreme right and left, I occupy a mid-position. Each case requires individual treatment. We learn and with experience unlearn—cancel many methods and adopt new ones which we hope to be more lasting. I shall briefly take for my guide an experience gained from perhaps five hundred laparotomies for ovarian diseases. I shall state facts as I have observed them in my experiences.

We must first thoroughly study our case and with all things taken into consideration try to be sure of our diagnosis. There are quite a number of cases where after using hot douches and building the patient up all symptoms of ovarian disease disappear. Or if not entirely relieved they will go along comparatively comfortably. I have treated many such cases. To illustrate, I briefly cite the following:

Mrs. J. D., white, age thirty-eight, mother of five children, came to me extremely nervous, much run down in every way. Youngest child two years old. Gave a history of having suffered after the birth of the child, had fever and did not convalesce satisfactorily, looked as though she had suffered from infection. She had been a physical wreck ever since this attack. An examination showed the right ovary much enlarged and prolapsed, with a great deal of thickening of the right broad ligament—endometritis also present. This case was thoroughly curetted, kept in bed for four weeks, using tonics and hot douches daily. She steadily improved and was discharged at the end of five weeks. While she has not become pregnant since, now four years since the birth of the last child, she is active in her domestic duties and reports that she is feeling first-class.

Mrs. J., white, age thirty, married for five years, consulted me. Anemic, nervous, constipated, etc. Gave a history of suffering greatly from leucorrhea and dysmenorrhea, periods irregular. On examination the uterus was found to be in position with a prolapsed left cystic ovary, very painful on pressure. She would not consent to have the ovary removed,

which was my best judgment should be done. She had been advised by other surgeons that it should be removed. I gave her tonics, regulated her secretions, kept her quiet, dilated and curetted, and used hot douches daily. She greatly improved in health. A short while afterwards became pregnant and gave birth to a living child, much to her delight. She has been well since, up until the past spring, when she consulted me again, somewhat run down in health. I found the ovary in very much the same condition as four years previous, but no worse. I could cite many other cases similarly treated with results equally good.

Where acute pelvic abscess is present evacuation of the purulent material per vaginam is found to yield most satisfactory results, and it is not necessary to remove the appendages. In this class of cases I call to mind numerous cases drained per vaginam with best of results—it only being necessary to go in through Douglas's cul-de-sac, letting out the pus and setting the patient at an angle of 45 degrees. These cases usually have many adhesions, but they seem to take care of themselves. One of these cases, opening the abscess per vaginam, and she clear of fever for several days with no signs of further inflammatory trouble, requested that I make an incision and examine her ovaries. She and her husband would feel much better satisfied if the ovaries were removed—she having had several miscarriages with most alarming complications. I consented to do the exploratory incision. On entering the peritoneal cavity from above I found the fundus of the uterus with the adnexa on each side a perfect mass of adhesions to the bowels. I was plainly in trouble. There was nothing left for me to do but make a complete removal of the uterus with the appendages. The woman came very near dying, for she was critically ill. She got well, to my joy, but I quietly decided in my own mind that the next case of this kind would not be operated upon for the removal of the ovary or ovaries so noon after having drained an acute pelvic abscess per vaginam.

In bad inflammatory infections non acute where no abscess has walled itself off, and it is impossible to drain through the vagina, I think it a mistake to act conservatively. These cases do better to remove the ovary complete. My experience has been where the pathological changes come from a chronic in-

flammatory lesion it is not wise to leave any portion of the ovary, for it will give further trouble. Hence in the end it is more conservative to remove than leave behind any portion of such an ovary. The same holds true if the ovary has undergone disintegration from specific trouble.

Mrs. I., aged thirty, mother of one child six years old, consulted me, giving a history of suffering continuously from her periods, constant pain and soreness over both ovaries, with periodical chills, with fever to follow. On examination I found both ovaries much enlarged, very sensitive. After opening the abdominal cavity both ovaries were found to be thoroughly disorganized with very small portions of healthy ovarian tissue, tubes healthy. I removed both ovaries complete. There being so many adhesions I drained for forty-eight hours through the abdominal wound. The patient made an uninterrupted recovery, has had no further trouble, and has been perfectly well ever since.

My conclusions are that where the ovaries are densely adherent, necessitating more or less mutilation in freeing them from a vicious position, it is better to remove them than to follow conservative principles. Especially is this true if there has been tubal infection. Or when the ovary has undergone a natural pathologic change, I have had little success in attempting to conserve a portion of it. It is certainly better to remove it if the other ovary is normal.

Simple cysts of the graafian follicles, corpus luteum, etc., are to be treated conservatively, if the remainder of the ovary which is not occupied by the cyst is apparently healthy. If on the other hand the capsule shows considerable thickening and there are evidences of other cysts forming, act radically—remove the ovary.

Hematoma of the ovary, if of large size, more or less occupying the whole ovary, extirpation; if of small size, excision.

Prolapsed ovaries should not be removed simply because they are prolapsed, but should be stitched either to the fundus of the uterus, or, as may be done in many cases, to the round ligament.

Where acute pelvic abscesses are present, the result of infection, mere evacuation of the purulent material per vaginam often is all that is necessary.

There are quite a number of cases with the diseased ovary

where, after using hot douches and building the patient up, the symptoms entirely disappear. But this is not the rule.

And last, but not least, it is of the utmost importance that the surgeon be well versed in a careful, well-grounded knowledge of pathologic conditions, since upon this depends his conclusions which must permanently influence another's life. A good rule is to give nature the benefit of our ignorance or doubt.



M. Whitacre, M. D.:

Having recently had two cases of **obstruction from Bandl's ring**, I think it may be of interest to report them.

I was called to see Mrs. H., August 21, 1907, whose labor had just begun. I had her go to Bethesda Hospital, where I saw her some two hours later, when labor seemed to be progressing nicely. The position was occiput posterior and to the right, with the os about the size of a silver dollar, soft and dilatable. From this time on she seemed to make no progress; although the pains were good, the head would not engage. After waiting another two hours with no progress, the patient becoming worn out by the ineffectual pains, and as the fetal heart sounds showed signs of weakening, I decided to deliver with instruments.

Under complete anesthesia I inserted my hand into the vagina, and, finding head not firmly engaged, I rotated to anterior position of vertex without much difficulty. I then applied forceps to bi-parietal region of head with some difficulty, the head being so high. I then discovered the contraction ring. In making pretty strong traction I found the lips of the cervix would come down in front of head without any appreciable effect on the size of the cervix. When the head became molded sufficiently to engage (it was rather a large head) in pelvis the lips of the cervix would still advance, and finally came almost to vulva, so I knew I must use the utmost caution to avoid rupture of uterus, or at least a bad tear of cervix. But by persistently making strong traction and relaxing to avoid too much depletion from continued pressure on soft parts, I felt the ring gradually give. Then I went even more carefully, fearing something might have torn, which it did not, however, as it was merely the relaxing, as I take it, of the contraction ring. After possibly three-quarters of an hour

of pretty hard work the head was delivered with cord once around neck, but not so very tight. The remainder of delivery was easy, and I thought my troubles over, but I had great difficulty in resuscitating the child. But after possibly three-quarters of an hour and after resorting to every method of resuscitating I knew of, was successful in getting baby to breathe.

The other case was a Mrs. G., delivered on August 25, 1907, which ran along about as did the other case, except that I had to use much more force—more, in fact, than I had ever used before in any case. The contraction ring gradually gave way, as did the above case. I considered myself very fortunate in not scarring either child after such hard traction.

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Auguste Rhu, M. D.:

In conclusion, I desire to say a few words concerning the anatomic form of **cancer** as found in the cervical portion **of the uterus**. Cancer arising from the vaginal side of the cervix, where we find the squamous celled carcinoma, the one most frequent, and according to the morphology of the *malignant growth*, may be found to be either *everting*, i.e., vegetating; or *inverting*, i.e., infiltrating; *medullary* or *scirrhous*. The cylindrical cells, i.e., adeno-carcinoma, found in the body of the uterus, are less frequently met with. More malignant and presenting the greatest difficulties so far as a positive diagnosis is concerned, the cervical carcinoma beginning within the canal is more difficult to diagnose than the one beginning in the vaginal portion; also the infiltrating or inverting type of growth is more frequent than the everting or vegetation type; also more malignant, and, unfortunately, the proper recognition very difficult.

In my practice I operate early, as soon as a diagnosis is made, if the uterus is freely movable, the patient's physical condition approaching the normal line, success is assured. The so-called "border line" cases with fixed uterus, with distinct evidence of metastatic invasion, and with a tendency to procrastinate, which is a not infrequent one, are nearly all fatal. If there is extensive involvement of the lymphatics, no operation of any kind is likely to prove successful, but if the case comes to us in the pre-incipient stage, the removal of the

cancer is a facile matter, and the death rate less than one-half of one per cent. in my practice.

I believe unquestionably the surgical treatment of cancer to be the only rational and successful procedure known to us, hence, I say call in the surgeon early.

Since a very large quota of cancer is so intimately connected with cervical and perineal laceration, it behooves us, as a profession, upon calm reflection and candid review before our inner conscience, to advise the proper surgical repair of such pathology, and by such means materially aid in reducing the fatalities of uterine cancer.

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Palmer Findley, M. D.:

It is only in the last decade that **combined operations** (two or more gynecological operations under a single anesthesia), have been generally practiced. With added experience and dexterity on the part of the operator; with keener insight into the various morbid conditions which join with the major lesion in bringing about ill health, the surgeon looks with increasing favor upon combined operations.

There are four complaints common to gynecological cases, i.e., pain, hemorrhage, leucorrhea, and sterility.

A single lesion may account for one or all of these complaints, or there may be several existing lesions, each contributing its part. Mrs. A. complains of pain at the time of the menstrual period. Her pain is distributed with varying intensity throughout the pelvis and back. She dates the beginning of her complaint to the time of her last childbirth. With the pain so generally distributed it is not to be expected that but one lesion will be found accountable for all her pain. On the contrary two or more lesions are invariably found. To relieve the patient of her pain no contributing factor, however slight, should fail of recognition and of correction.

If this is true of pain as a clinical manifestation of combined pelvic lesions, it is also true of leucorrhea, hemorrhage, and sterility.

With what readiness the physician resorts to the curette to relieve these complaints! Not uncommonly no relief is afforded, indeed the complaints may be exaggerated. The explanation for the failure lies primarily in a faulty diagnosis.

There was a uterine hemorrhage, the uterus must be



curetted; but the interstitial fibroid, the retroversion, the cystic degeneration of the ovaries, the infected appendages or the ectopic pregnancy are not attacked for want of a diagnosis, and a discriminating sense of their clinical significance.

There was leucorrhœa. The discharge was from the uterus and hence the curette was called into service, but the effect was temporary. The infected appendages were overlooked.

There was sterility. The dilators and curette were brought into service, without regard to the latent infection of the tubes or to the under-developed uterus and ovaries.

There was pain. Again the curette, but with no result. The displacement of the uterus, the cystic degeneration of the ovaries, the chronic infection of the uterus and its appendages were not recognized, hence the failure to give relief.

These illustrations are presented to emphasize the importance of looking beyond a single lesion for the cause of a symptom or group of symptoms.

Some time ago I performed a supravaginal hysterectomy for multiple fibroids of the uterus. The immediate recovery was satisfactory, but I failed to obtain that perfect relief which was desired because I had overlooked a urethral caruncle. The subsequent removal of this small but troublesome lesion, alone made it possible to pronounce a cure.

I would estimate that fully 90 per cent. of the operations I perform are combinations of two or more separate and distinct operative procedures.

In the course of an operation minor lesions are often disposed of which in themselves might not justify an anesthetic, much less an abdominal incision. Such, for example, are cystic ovaries, small sub-peritoneal fibroids, a prolapsed ovary, relaxed uterine supports without displacement of the uterus, a perineum torn and relaxed to a moderate degree and with no displacement of the uterus. These and many other minor lesions should be disposed of along with major lesions calling for operative interference.

I maintain that the surgeon who follows this course will be the most successful surgeon. He will not become famous for rapid operating, but he will have the satisfaction of affording complete and permanent relief in a larger per cent. of his cases than would be otherwise possible.

## Translations.

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**Lesions of Nipple During Lactation.**—Rudaux (La Clin.) says fissures and excoriations of the nipple generally develop during the first week of lactation, seldom after this time; primiparæ are more prone to them than multiparæ although a few persons find they recur at every birth. The lesions are as a rule bilateral, and personal predisposition has much to do with the production of them. There are two forms of umbilicated nipples, the one can be readily reduced, that is, pushed out by pressure of the fingers so that the child can take hold of it, the other is not reducible, the nipple appearing to be held down by inelastic fibrous tissue. In such a case lactation is often impossible, but occasionally the child succeeds in making a false nipple by suction. The nipple is sometimes very prominent, looking rather like a raspberry and with deep fissures in it, or it is a large mass attached to the center of the areolus by a narrow stalk.

The immediate cause of a lesion is suction; children differ considerably in their manner of sucking, some seem to have harder mouths than others, and they tend to produce ulceration of the part after suckling a few times. The nurse often neglects prophylactic measures, or permits the child to remain at the breast for very long periods, sometimes for several hours, with the result that the epidermis is macerated and crevices are formed. The effect of acidity of the mouth of the infant has been much exaggerated. Before a lesion is evident there is a great deal of tenderness either when the child first seizes the nipple or during the whole time of feeding; when a crack or fissure is present the tenderness becomes definite pain. The pain is so acute that the mother cries out with it, and learns to dread the moment when the child takes hold or leaves go of the breast. The repetition of the painful experience produces so much distress and nervousness in delicate and neuropathic women that it is not unusual to find it necessary to abandon lactation, especially where the result is a diminution of the secretion. One is also afraid that the little sore may be the origin of an infection, causing the mother glandular enlargement or abscess, and in the child some gastric disturbance. Spurious melanemia may occur in the infant if it has swallowed much blood, but this cannot be regarded as a true complication.

The writer does not consider the usual prophylactic treatment by alcoholized lotions is very efficacious; he recommends that the feeding times should be at long intervals, until the

secretion is fully established, that the child should not be left longer than five minutes at the breast, and that special precautions as to cleanliness of the parts should be observed. After each feed the breasts are washed with oxygenated water one part, in three of boiled water, and covered with a pad of sterilized gauze; before the next feed they are again washed, and the cleanliness of the child's mouth is attended to. When fissures are present the nipple should be washed in equal parts of oxygenated water and boiled water, and then wrapped up in gauze soaked in oxygenated water. In twenty-four or forty-eight hours signs of cicatrization will become evident, and the moist application is replaced by a dust of boracic acid powder and a layer of dry sterilized gauze. The person who dresses the wounds must wash and disinfect the hands before touching the affected part, otherwise a possible source of further infection is present.

**Milk in the Artificial Feeding of Infants.**—Finkelstein (Therap. Monats.) discusses the relative value of boiled and unboiled milk in the artificial feeding of infants. For many years sterilized milk, especially that produced by Soxhlet's apparatus, was regarded as the very best diet for infants. Then there was a change of opinion. It was pointed out that some infants reared on sterilized milk developed Barlow's disease (scurvy-rickets), and it was thought by some authorities that boiling so "denatured" milk that it lost many valuable qualities and became unsuited for infant diet. Behring went so far as to suggest that the popularity of the sterilized milk diet was largely responsible for the high death-rate among infants. In most countries milk can be obtained for children which has been carefully preserved from bacterial contamination. Such milk, though suitable for infant diet, is very expensive and beyond the reach of the poor. Finkelstein asks the question, "Is the advantage of unboiled milk so great that we must use every endeavor to bring an uncontaminated supply within the reach of the very poorest; and when this has been done has the difficult problem of artificial feeding been solved?" At present the researches on the comparative value of boiled and unboiled milk are few, and in many cases open to criticism. Experiments have been made on animals to ascertain the influence of the two diets upon metabolism. These have shown that boiled milk is at least of equal value, and is probably superior as a diet to unboiled milk. Bruning has shown that pigs, dogs, rabbits, guinea-pigs, and goats develop better when brought up on boiled than on unboiled milk. There is no proof whatever that unboiled milk is a better diet for infants than boiled milk. Those who have brought forward evidence in favor of unboiled milk have often not taken

all the circumstances into consideration. Finkelstein has made some very careful experiments to ascertain whether any superiority can be detected for one or the other. The experiments fall into three groups. Those on healthy infants, on sick children, and on undersized, ill-developed children. The result was that no superiority could be maintained for either method of feeding, neither the progress of the healthy children nor the recovery of the sick seemed to be influenced by the diet. Experiments made in Stockholm showed that when children were fed from birth until they were three years old by the two methods no difference could be detected. The question of Barlow's disease is not, Finkelstein thinks, an uncomplicated one. Barlow's disease is unknown in many countries where sterilized milk is used; we can say that Barlow's disease is only found in children fed upon boiled milk, but not that such a diet is the only cause. The conclusion seems to be that failing a milk supply which is absolutely above suspicion, it is better to boil the milk of infants than to run the risk of infection with tuberculosis and other diseases.

**Spontaneous Rupture of Umbilical Cord.**—Tissier (Le Scalpel) relates a case proving the possibility of the spontaneous rupture of the cord when delivery has taken place in the upright position. A woman, aged 33, pregnant for the third time, with no history of mental or other abnormality clearly made out, progressed satisfactorily from her conception in August till towards the end of February. Then she became strange in manner, "lost her head" as her neighbors expressed it, and at last, on April 15th, had a seizure which appeared to be of the nature of eclampsia, and was removed to hospital. There was no sign of albuminuria, edema, or stupor, although she was certainly deranged in mind, and was insensitive alike to pinpricks and to the application of heat. The attack was regarded as hystero-epilepsy, and the authorities played a waiting game. In the course of the morning of the 18th the patient got out of bed, and stood in the middle of the ward over a basin, her face still wearing its expression of hebetude. To the inquiries of the other patients she simply replied that she was having a baby, and sure enough the sound of a fall was followed by the presence of an infant in the basin.

The patient was at once got back into bed, and it was not until the fifth day that she recovered full consciousness, greatly surprised at the possession of her child, having been quite unaware of the delivery. There was no perineal tear, and she made a good recovery. The infant was not injured in any way by its abrupt entrance into the world, but the cord, which was apparently quite normal, was broken off about 5 inches from the umbilicus, the fracture being oblique but

without any irregularity, as if it had been cut in that manner. The question arose whether the cord gave way suddenly from the weight of the child upon it, or whether it had been torn asunder by the patient herself, who was observed at the time to pull on something between her thighs. Tissier inclines to the view that it broke suddenly, as a pull on such a slippery surface would have caused the vessels to separate at different levels, with irregularity of the gelatine stroma.

**The Treatment of Puerperal Insanity.**—Rudaux (La Clin.) understands by this term all the different mental manifestations which are liable to supervene during the course of the child-bearing period, during pregnancy, parturition, and lactation. When such symptoms appear during pregnancy two factors are at work: first, a nervous temperament or heredity, and secondly, a determining cause. The former is very variable, it may be depression due to unhappiness or adverse circumstances or anxiety, whilst the latter is generally an auto-intoxication due to pregnancy, and against which prophylactic and curative measures can be adopted. Thus, a strict regimen with a well-regulated diet and laxatives are required to prevent further absorption of toxins. When nervous symptoms appear these measures should be redoubled and there should be no hesitation in isolating the patient in a home or asylum.

The treatment depends upon absolute mental rest, suggestion, hypnotism, and a careful mental and moral re-education. In acute mania sedatives are employed, such as chloral bromide or morphine. Mental symptoms appearing after the confinement generally have their origin in an intoxication starting from some lesion of the genital tract, and local treatment with sedatives and constitutional measures are sufficient. In some cases mental symptoms only become evident during lactation, the first signs are the suppression of the milk and a dislike to the child. Isolation with strict supervision are needed and should be accompanied by hygienic measures and an attempt to reduce the blood-pressure with salines and diuretics.

**Rupture of Ovarian Cyst During Pregnancy.**—Morestin (Ann. de Gynéc et d'Obstét.) reports that a woman, aged 35, was seized with violent abdominal pains when traveling on a tramway. She was in the fourth month of pregnancy, but her abdomen had become abnormally distended before the accident. On the fourth day after passing a hard motion, the patient felt even more violent pain and vomited frequently. She was admitted into hospital, and there all the signs of internal hemorrhage were observed. The extremities were cold, the radial pulse could not be felt, and there was clearly

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free fluid in the peritoneal cavity. A bulky tumor lay on the left of the middle line, reaching above the level of the umbilicus, and the uterus was enlarged and soft. No blood issued from the vagina. Anemia was extreme. Abdominal section was performed, and the tumor proved to be a ruptured multilocular cyst on the right ovary. Its pedicle had apparently become twisted, and it had swung over to the left side. The bleeding issued from the rent in its walls. The peritoneum was drained. The patient's condition seemed desperate for some time. On the second day labor set in and a dead and macerated male fetus was expelled. The placenta had to be removed on the second day, and on the third the patient was very weak and excitable, yet she ultimately recovered.

**Uterine Fibroid Associated with a Dermoid Cyst.**—Berger (*Journ. des Prat*) quotes the case of a woman, 40 years of age, who suffered from an interstitial fibroid of the body of the uterus, in whom there was also found on the left side above the true pelvis a tumor the size of the fist. This tumor was mobile, resistant, and slightly tender, and it was thought to be a pedunculated fibroid. As the patient was losing much blood, operation was carried out, the uterus and its appendages being removed. The movable mass on the left side of the uterus was found to be a dermoid, containing hair, part of a dental alveolus, and two teeth. Complete recovery followed the operation.

**Pelvitomy.**—Zweifel (*Annales de Gynéc. et d'Obstét.*, September, 1907) recently discussed the technique, indications, and results of the different varieties of pelvitomy. He preferred the subcutaneous methods, as the wound healed quicker and asepsis was more assured; but it must be remembered, he added, that a needle wound might introduce septic germs, whilst long wounds healed well when infection was successfully avoided. Prognosis depended on asepsis and the absence of hemorrhage. In symphysiotomy the bladder was endangered, but only a short incision was necessary, and the finger, guarded by a rubber glove, could be introduced into the wound so as to protect the bladder with little risk of infection. Subperiosteal hebstectomy was the safest method for division of the pubis, as it did not endanger big vessels. Symphysiotomy had one advantage over pubiotomy, for it allowed of future spontaneous deliveries. Again Zweifel added, it could be performed subcutaneously and aseptically, as in subcutaneous pubiotomy. Zweifel concluded with observations on the precise surgical operation required for pelvic contractions of different degrees. Pelvitomy was very favorable for cases of moderate contraction, and under certain conditions

the induction of premature labor was justifiable. In the extreme forms of contraction Cæsarean section or perforation were the sole alternatives, and the former was greatly to be preferred, for induction of premature labor was in such cases wrong, whilst the Cæsarean operation saved the child and was now attended with very good results as far as concerned the mother.

**Fibromata and Pregnancy.**—Pinard (La Clin.) reports the case of a woman who consulted him having had one child and two abortions, whose uterus was known to be fibromatous, and who was again pregnant. Her period was a fortnight late, though she had previously been very regular, accompanied by heavy losses, with occasional clots. The fundus of the uterus was as high as the umbilicus and a large tumor could be distinctly felt, inclined to the right and lying in the pelvic cavity. At the sixth month the tumor was in the same position, but was distinctly softer, at the eighth month the tumor, which had until then appeared to be fixed in the pelvis, was more movable and had risen into the abdominal cavity. Labor followed its normal course and the woman was able to nurse her child. The fibroid had diminished considerably in size and will in all probability disappear completely within eighteen months or two years. It has been recognized that infertility plays an important rôle in the etiology of fibromata, their growth is encouraged by inactivity of the genital organs. A woman may become pregnant whatever size or number of fibromata she has, so long as they do not prevent the spermatozoa from penetrating into the uterine cavity; during her pregnancy the tumor will generally grow less and soften, it does not calcify or become encysted. Such a tumor, by causing pressure, may cause trouble of the bladder, intestine, or ureter, but incidents of this kind are exceptional; hemorrhages are more frequent than in other cases, as the fibroid is often a cause of an abnormally-situated placenta. This is rare, and is usually found in women whose surroundings are unhygienic, or in whom the fibroid is complicated.

Pregnancy, as a rule, runs a normal course except in the case of a pedunculated fibroid whose pedicle becomes twisted, or in cases where the tumor becomes painful. Pinard considers that whatever the size or position of the fibroid may be, only hygienic treatment is called for. When the tumor begins to accommodate itself to the fetus it requires to be carefully watched; when the fibroid lies in the pelvic cavity and the fetus presents by the breech, version is not advised, as this position is very favorable to spontaneous displacement of the tumor, and is generally followed by an uneventful labor. If after the commencement of labor it is found that the tumor

is an obstruction, a Cæsarean section is advised either with or without hysterectomy. After delivery such tumors may be the cause of troublesome hemorrhage, requiring the rapid delivery of the placenta before it can be arrested. Lactation favors a decrease in the size of fibromata.

**Ovarian Cyst and Pregnancy.**—Martin (Arch. Prov. de Chir.) reports a case in which a primipara, aged 17 years, in the seventh month of pregnancy presented decided symptoms of a suppurating dermoid cyst of the right ovary. In consequence of abdominal tenderness with rigors and fever, and as these grave symptoms were evidently due to the ovarian tumor and delivery was impossible under such conditions, Cæsarean section was practiced, followed first by removal of the suppurating and ruptured cyst, and finally by total abdominal hysterectomy. The laparotomy wound was completely closed by sutures, and drainage established by the vagina. Both mother and infant recovered after the operation. In this case, the author states, laparotomy for removal of the ovarian tumor was the only possible plan of treatment. The operation was performed with the view of simply extirpating the cyst and of allowing the uterus to remain and pregnancy to take its course, but the presence of a large center of infection in the pelvis threatened the life of both mother and child, and as both ovaries were diseased, the uterus, if it could have been retained, would have been useless, and probably a source of danger. The author refers to other cases in his practice in which he successfully removed ovarian growths during pregnancy, and states that his personal experience of such complication has led him to support the view that every ovarian cyst diagnosed in the course of pregnancy demands operative intervention. The surgeon, it is held, should act with the object of preventing a double danger—that of torsion, or rupture of the cyst, caused by pregnancy, the other of abortion, or grave dystochia due to the presence of the cyst.

**Primary Cancer of the Appendix.**—Hartmann (Bull. et Mém. de la Soc. de Chir. de Paris) in a report on 2 cases of primary cancer of the appendix, communicated by Lecène, expresses the opinion that the apparent rarity of this disease indicated by the tables of Maydl and Nothnagel does not correspond to the reality. Lecène, it is stated, has collected from different sources 40 instances of cancer originating in the appendix, which have been observed within the last eight years. As the growth is usually small and the affected structure differs but slightly from one that is the seat of chronic inflammation, the presence of malignancy is likely to be overlooked unless a systematic examination be made of every diseased appendix.



The 2 cases observed by Lecène correspond to 50 cases of appendicitis; these, together with about 40 of the collected records, give much information on the clinical history, hitherto very slight, of cancer of the appendix. The affected process is not, as a rule, much enlarged, and to the naked eye presents lesions of quite an ordinary character. These lesions, however, when histologically examined, present the typical structure of epithelioma. The cancerous growth in many cases involves a restricted or obliterated portion of the appendix.

It is doubtful whether the disease ever extends from the appendix to the cecum, as in cases in which both these parts are involved there is much difficulty in determining the starting point of the growth. In the cases collected by Lecène there is but little mention made of generalization of the disease, but in one case recorded by Lejars widespread glandular infiltration was observed. The growth is always an atypical cylindrical epithelioma, usually an adeno-carcinoma, very rarely an alveolar carcinoma. The disease originates in the mucous membrane and its glands, and rapidly invades the other coats of the organ. Primary cancer of the appendix seems to develop mainly between the ages of 20 and 30 years. The pre-existence of inflammation of the appendix is evidently an element of real importance in the etiology of the cancerous disease. In half the number of cases in which a clinical history is recorded, reference is made to previous attacks of appendicitis at dates when it could hardly be assumed that epithelioma already existed.

The frequent association of the cancerous growth with an appendicular cicatrix, or some other relic of long past inflammation, indicates that such growth may be a cicatricial epithelioma of the appendix analogous to ulcero-cancer of the stomach. Primary appendicular cancer, it is pointed out, is a latent disease, and presents no distinct symptoms. Hitherto a clinical diagnosis has never been made, the disease having been first revealed during an autopsy, or an operation for some uterine lesion, or for appendicitis. When observed on a living subject, the whole of the affected appendix, together with its meso, should be removed. The fact that the disease is more frequent than was formerly supposed should lead the surgeon who is operating on the female genital organs, or performing celiotomy or any other procedure in the ileocecal region, to make an examination of the appendix, and to remove this process whenever it presents any apparent structural change. It is also an additional argument in favor of the systematic removal in every case of an appendix that has been the seat of one or more inflammatory attacks. The prognosis of appendectomy for cancer is still uncertain, but cases have been recorded of freedom from relapse during four, three, and two years.

**Alcohol in Obstetrics.**—The use of alcohol during pregnancy is approved of by many practitioners, who order brandy or wine for weakness, feeling of nausea, vomiting, and loss of appetite; but A. Theilhaber (Münch. med. Woch.) has not been able to receive the impression that the results gained in this treatment are better than those gained without alcohol. It has been pointed out that the prescription of alcohol during pregnancy is not unlikely to make the patient a drinker, and that the children of such children are mostly stupid. During labor wine is also freely prescribed. Theilhaber says that it has been the practice in Munich for midwives to order almost every well-to-do patient champagne during the expulsion period; and, as the patient does not finish the bottle, the midwife feels it to be her duty to take what remains. Alcohol has a baneful influence on the pains, and *post-partum* hemorrhage is more common in patients who have taken it during the labor.

For puerperal fever alcohol has been ordered by some in large quantities, often exceeding  $\frac{1}{4}$  liter of brandy daily. Although it has been shown that large doses of alcohol render animals less susceptible toward bacterial infection if given immediately after the infection, the production of immune substances is lessened if the alcohol is given after the symptoms have shown themselves.

The beneficial action of alcohol on the heart, when given in large quantities, is extremely doubtful, and the antipyretic effect is but small. The author does not believe that alcohol does any good either in pregnancy, in parturition (including the stage of post-parturient hemorrhage), or in the puerperal stage, be this normal or abnormal.

With regard to the lactation period, many persons believe that beer increases the secretion of milk. In Munich, nursing mothers usually drink from  $1\frac{1}{2}$  to 2 liters of beer daily. The author states that as far as he is aware it has never been proved that alcohol does increase the secretion. In many parts where nursing women do not drink any beer, the average breast secretes milk which is plentiful and rich, while in Upper Bavaria, where beer is drunk in quantities, the production of milk is mostly small. He thinks that it is much wiser to give milk, malt, coffee with milk, water and the like instead of beer. He, therefore, does not give any alcohol during lactation. In the treatment of gynecological conditions there is not a single indication for the use of alcohol.

Physiologically, alcohol produces a hyperemia of the genitals and leads to increased sexual desire, increased secretion of the genital glands and increased menstrual flow. It is, therefore, contraindicated in all bleeding myomata, in chronic metritis, in atony of the uterine muscle, in preclimacteric hemorrhages, etc.

The increased secretion caused by alcohol forbids its use in salpingitis, endometritis, and vaginitis. Further, alcohol may not be given in gonorrhea. Kraepelin stated that in East Asiatic countries, where alcoholism does not exist, general paralysis of the insane is unknown. For this reason, it would be wise to forbid alcohol to all syphilitics. In neuralgic and hysteric conditions, he thinks that one ought to greatly reduce the quantity of alcohol taken or forbid it altogether. In conclusion, he says that it is the duty of medical men to take up the fight against alcohol, and he points out that the use of it in obstetrics and gynecology is unnecessary and even harmful.

**Climacteric Hemorrhages Simulating Cancer.**—Myer-Ruegg (*Zentralblatt f. Gynäk.*) notes the extreme interest which women as well as gynecologists take in climacteric symptoms. Patients now think not only of the chances of temporary ill-health during the change of life but also of the risks of cancer. Atypical hemorrhages rightly alarm them, and are enough, even when scanty, to drive them to their doctors. It happens that Myer-Ruegg has been consulted by no less than five women where the hemorrhages were essentially atypical, that is to say irregular and independent of menstrual molimen, and very suspicious in character; yet on careful examination it was found that there was no trace of incipient cancer of the cervix or of the body of the uterus. The irregular hemorrhages were caused by acquired cervical hematometra, the retained blood escaping from time to time, generally in the form of a brown discharge. The condition seems due to the atrophic narrowing of the os externum common at the menopause, whilst the uterine end of the cervix also undergoes some contraction. In the least marked cases of this cervical hematometra the canal appears fusiform on section. Myer-Ruegg noted that the os externum was difficult to distinguish, even with the aid of the speculum. In more than one case it was indicated by a minute fold of the mucosa at the top of the vagina; then a probe could be passed into a narrow opening. When the probe was pushed up further, it entered a cavity, and, when retracted, dark blood or old clot escaped in more or less abundance. The atypical hemorrhages ceased altogether after the canal of the cervix was carefully dilated. In none of the five cases was the cavity of the uterus itself enlarged. In one case the period returned and remained regular for a while, ceasing at length without any abnormal manifestations. Schick (*ibid.*) publishes a case quite opposite in character, where a woman, aged 58, had been quite regular until the age of 55, when the show ceased for three months. Since then irregular hemorrhages and dark-brown discharge had been noted. In October, 1906, the

curette was used, but no evidence of malignant change could be made out in the scrapings. Yet by February, 1907, when Schick examined her, cancer of the body of the uterus was detected and metastases were found in the connective tissue of the vagina on the right, extending down to the perineum and anus in the form of well-defined tuberosities. Yet the cancer had originated in the glands of the endometrium, the situation of the metastatic deposits was, therefore, most unusual. The most interesting feature in this case, as compared with Myer-Ruegg's, was the long continuance of atypical hemorrhage before malignant disease was established, whilst in the cases under the latter writer the bleedings continued for long, yet were from first to last due to morbid conditions which had nothing to do with any type of malignant disease of the uterus or cervix.

**Contusions of the Abdomen.**—As the correct interpretation of the signs following contusions of the abdomen frequently taxes the capabilities of the practitioner to the utmost, O. Hildebrand (Berl. klin. Woch.) discusses the various injuries which are met with. He divides his subject into injuries to the gastro-intestinal canal and injuries to the parenchymatous organs. He does not deal in detail with hematomata of the abdominal walls.

First he speaks of contusions which lead to a crushing or tearing of the serous and muscular coats of the canal. In these cases the continuity of the canal is not broken, and thus no perforation signs follow. A hematoma may develop, but as a rule at first no ill effects are marked. It is especially the late effects to which he wishes to draw attention. He instances a case of a man who complained of symptoms pointing to stenosis of the stomach. His age corresponded to the common age for carcinoma, but no tumor could be felt. He stated that six months previously he had been struck by an iron grating falling on his abdomen. On opening his abdomen Hildebrand found adhesions between the stomach and liver, and also with the intestines. The signs of stenosis depending on these adhesions were removed by a gastro-enterostomy. Other cases are also cited which show analogous conditions. The mucous coat is sometimes ruptured by external violence, and the serous coat remains intact. This may lead to ulceration, necrosis of the muscular coat, and later on to perforation.

Next he turns to perforating injuries affecting the gastro-intestinal canal. The serous, muscular, and mucous coats are all ruptured. Sometimes one finds a minute opening, sometimes several holes, and sometimes the gut is torn right across. The smaller the opening is, the less dangerous is the injury,

but in any case the chances for the patient depend primarily on the promptness of the correct diagnosis. One symptom is very important. This is unilateral rigidity of the abdominal muscles. The patient generally looks very ill and pale, his pulse is rapid, there is much pain, and he is mostly excited. Although he does not regard the rigidity of the muscles as a pathognomonic sign, he certainly believes that it may often put the physician on the right tack. Whenever the muscular wall is rigid, one should lose no time before operating, or at all events seeking the assistance of the surgeon. He believes that the rigidity is due to beginning peritonitis, which he has seen well marked within two and a half-hours of the injury.

If one operates in severe cases early, one can obtain much more favorable results than one used to get when one waited for the signs of peritonitis to develop. Out of 12 cases of intestinal injury, he was able to save 5 by operation.

Next, he says a few words on tears in the mesentery. The dangers of this injury are at first hemorrhage, and later gangrene of the corresponding part of the intestine. It is extremely difficult to make rules when one ought to operate and when it is not necessary. Each experienced surgeon learns to judge each case on its own merits. In speaking of the parenchymatous organs, he says that injuries like tears in the spleen or liver cause hemorrhage. This may be slight and cease spontaneously. But it may go on until the patient has become dangerously anemic. At times one operates on such cases, and finds that the bleeding from a tear in the spleen has stopped, or at most requires a small plugging with iodoform gauze. In other cases, the tear may be so large that no other means are left than removal of the organ. This must be done without hesitation. In the case of the liver, however, one cannot remove the organ, and compression or suture are frequently extremely difficult to apply successfully. In past times it was suggested that steam applied to a bleeding liver arrested the hemorrhage. Hildebrand tried this on animals, and found that the steam boiled the liver and the animal died. At times the bile ducts are injured. These cases are very rare, but he has experienced one, and was able to save the patient's life by laparotomy. The bile was escaping freely into the abdominal cavity, and would certainly have killed the patient after a time. Injury to the pancreas is extremely rare. As a rule, when this organ is damaged, other organs are also injured. The signs are similar to those of hemorrhagic pancreatitis. The fat necrosis strikes one on opening the abdomen.

Comparatively common are the injuries to the kidneys. At times, one or two small tears may be seen on the surface, or the tears may be deep; and, again, the whole organ may be crushed into two parts. The kidney is usually crushed against

the first lumbar vertebra. The first class of case shows a short lasting hematuria, but no anemia, while if the tears are deeper the hemorrhage may last for some time. In the case of a completely torn organ one finds very extreme anemia, great pallor, cold, clammy skin, and restlessness. The abdomen is excessively tender, the pulse is thready, and one obtains the impression that the patient is dying rapidly from loss of blood. If one opens the abdomen, one finds huge effusions of blood, and in the midst of the blood the kidney lies buried. One only has a short time during which one can still save the patient. For the first two classes one waits for matters to develop, but in the third class one must operate and remove the kidney at once. The author makes some very interesting remarks on injuries to the ureters, and cites cases in which he was able to operate, once with good result, and once (in a very complicated case) with fatal result. The bladder also receives attention; and, in conclusion, he sums up all his operations performed for the results of contusions of the abdomen. These number 31 fresh operations and 6 late operations; 9 of the former died, while all the latter recovered.

**Sloughing Cancerous Uterine Fibroid.**—Peraire and Cornil (Bull. et Mém. de la Soc. Anat. de Paris) relate a case where a woman aged fifty-five consulted Peraire for free metrorrhagia which had lasted for nine months, beginning just ten years after the menopause. The discharge, at first red, had become brown, though not fetid. Severe attacks of pain set in. The patient had twice been pregnant. The cervix was fixed. Subtotal hysterectomy was performed; it was difficult on account of strong and extensive adhesions to the intestines, bladder, and omentum. The stump was covered over with peritoneum, together with the pedicles of the appendages, both of which had been removed on account of extensive inflammatory changes. The uterus contained several myomas. In the fundus, under the mucosa, lay one of the smallest of these new growths; it was as big as a walnut and entirely sloughy. The mucosa on the surface was entirely converted into an exuberant growth, the source of the sanious discharge. Cornil pronounced it to be an alveolar epithelioma with polyhedral cells, and not probably primary. He advised the speedy removal of the cervix.

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## HOW BEST TO CARE FOR PUS IN THE PELVIS.

BY J. OSCOE CHASE, M. D.

Numerous cases of septic infection of the pelvis have been brought to my attention and how best to care for these is often a perplexing question, as we all know that a large percentage of such cases are fatal from the start. To recognize the condition and act quickly is paramount, and often cases can be saved which would otherwise terminate fatally.

Remove the cause if possible; but as this cannot be accomplished in many of the cases without serious results, it is better to resort to conservative measures.

Make a free incision and drain the pelvis, as you would any pus cavity. This relieves the acute condition, and later a secondary operation can be performed to remove the offending mass without serious results.

Drainage, without flushing the abdomen or disturbing the viscera, has been recognized by the leading surgeons as the safest and best method of procedure. To illustrate this I will refer to a few cases.

Case I. On December 19, 1906, I was called to see Mrs. R. B. L., aged 23, and found a mild fever had existed for several

days. The skin was pale, facies dusky and anxious, pulse scarcely perceptible at the wrist—in fact, all the symptoms of a slow septic infection were present.

Upon examination a large indurated mass was found occupying the right side of the pelvis, extending up as far as the umbilicus. On the left side was another hard, oval mass about the size of a pineapple. The above condition I learned was the result of an abortion, six weeks previous.

I placed her at once in the New York Medical College and Hospital for Women. Under consultation with Dr. Wm. Seaman Bainbridge an operation was not deemed advisable at that time. Lachesis, apis and other remedies were administered. Unguentum Cr  d   was applied to the abdomen to localize the infection and counteract systemic poisoning. Vaginal douches, as hot as could be tolerated (110 to 115 degrees) were administered for thirty minutes, twice daily, to soften the mass and bring it within the lower part of the pelvic cavity where it could be safely reached. At the end of two weeks the mass in the right side became much softer but the patient could not tolerate the hot douches longer, complaining of severe pain after fifteen minutes. She then became exhausted each time the douches were employed, so they were immediately discontinued. Fluctuation at this time could be detected and accordingly vaginal colpotomy was considered indicated.

At this stage a laprotomy would have proved fatal, or at least very hazardous, so we resorted to drainage to relieve the condition. On January 2, 1907, we made a full opening through the cul-de-sac of Douglas, and over a quart of pus, blood and placental tissue came out, which proved that the uterus had been perforated when an attempt was made to get rid of its contents at the time of the abortion.

After mopping out the pelvis with gauze sponges—kindly observe no irrigation was employed—the cavity was packed with iodoform gauze, first dipped into a hot saline solution, and the excess of moisture squeezed out. Following this, the vagina was loosely packed with moist gauze, and a damp sterile dressing applied to the vulva. She was placed in bed with the head elevated as high as possible to promote drainage.

The packing was changed every two or three days, with the assistance of Drs. Boyce and Freck, the resident surgeons, until convalescence was established, when she returned to her home, January 29, 1907.



Case II. Mrs. McG., 27 years of age, was confined on April 7, 1907—primipara. I was called to see the woman eight days later (April 15), and found a temperature of 105.2 degrees, pulse rapid and weak, with the usual symptoms which are characteristic of a severe case of septic infection. I was told the physician who confined her informed the family that he had made the usual number of visits, and that if they wanted his services further they would have to pay him for each call.

Examination revealed a primary sewing up of the lacerated perineum. The stitches, however, had not been carried to the upper or inner portion of the tear, a gap remaining through which the finger could be inserted three quarters of an inch, leaving a pocket for infection. Union not having taken place, the stitches were sloughing, and soon the entire torn area separated. This, however, was not responsible for the great systemic disturbance. The cause was further up—a torn uterine wall, with material entering the pelvis, which had walled itself off from the abdominal viscera. This fortunately burrowed downwards, on the right side, extending to the vagina and pointing at the right ischial region.

I made a free incision through the gluteal muscles, which was followed by a spurting out of a stream of pus, like water from a hydrant. It shot out at least twelve inches—far beyond the douche pan which was placed to catch the discharge. The pus was of a thick, yellowish-green consistency and of an extremely offensive odor. About 8 to 10 ounces were discharged at this time. The cavity was cleansed and packed with gauze, which was changed daily for the first week, and every two or three days for the following two weeks, using a smaller amount of packing each time until the discharge ceased and the wound healed by granulation.

Within 24 hours after the opening was made the temperature dropped to 98 degrees, and did not go above 99.3 any time after that date. The patient remained in a critical condition for several days, but at the end of a week showed improvement, and after that gradually gained in strength until her health was restored, since which time I did a perineorrhaphy, the parts uniting kindly. The stitches were only removed on Monday last, June 17th, just before starting for this convention.

Case III. Mr. Patrick D. called at my office October 15, 1906, at 9 a. m., with severe pain and cramps in the lower

abdomen. Said he could not urinate and wanted to be catheterized. Seven and a half ounces of urine were drawn. I found he had urinated two or three hours before and always previous to that voided urine without inconvenience. I therefore excluded the bladder as the seat of trouble. He gave the following history:

Occupation—a private coachman. He had been on the cab until 10.30 the night before, exposed to the cold and rain, and for several days previous to that had a great deal of pain in bowels and loss of appetite. He still continued to work and kept up his spirits by drinking a great deal of liquor.

Upon examining him I found general tenderness over the entire abdomen, slight fever, rapid, wiry pulse, and while talking with him he became nauseated and soon vomited. I advised him to go immediately to the hospital, thinking of a ruptured appendix. He would not consent to this but said he would go home first to think the matter over. While talking he vomited again. I could not make him realize his serious condition but within two hours he sent for me. I immediately removed him, by ambulance, to the Flower Hospital.

Dr. Geo. W. Roberts was called in consultation and he operated without delay. An incision was made in the region of the appendix, when a quantity of thin yellowish-brown pus rushed out. The appendix was examined but as that was not involved another incision was made in the median line to promote better drainage; without examining further, drainage tubes were introduced in both incisions and the patient placed in bed in almost a sitting posture,—Fowler method. High saline enemas were used. At the first time, a small portion of the fluid passed out through the abdominal wound with a minute lump of feces, which proved an ulceration of the colon. The exact position of the abscess was not ascertained.

Inside of a week the temperature had returned to normal, and in about three weeks the patient was anxious to go home. He declined to have a secondary operation, consequently was discharged from the hospital.

Since that time he has frequently called at my office to have the wound examined. A period of eight months has elapsed since the operation and he still has a small sinus in the median line, through which a probe can be passed directly back a distance of four inches. A slight discharge of pus continually

oozes from this sinus, except at times when the opening becomes occluded. Then he feels uncomfortable until a fresh dressing is applied. So far I have been unable to persuade him to return to the hospital for a second operation. He says, "While I can work as usual, have a good appetite, can sleep well and take a few drinks of whiskey, what is the use of going back to the hospital." \*

Case IV. Mr. R. came to my office September 26, 1906, with symptoms similar to the previous case, i. e., pressure in the pelvis and claiming he could not urinate. This is often a characteristic symptom of pus or fluid in the pelvis pressing on the bladder which makes the patient feel that he is unable to urinate. This man had been to a doctor for treatment for two weeks and was steadily getting worse. Nevertheless, he had worked every day. His general peritonitis, hectic appearance and the usual symptoms of sepsis were marked. He would not consent to go to the hospital that evening, but called at my office in the morning, when I reassured him that unless he immediately went to the hospital he would be a dead man in a few days. He then consented to go to the Flower Hospital and was operated upon that afternoon by Dr. Wm. H. Bishop for appendicitis. Pus was found in the pelvis. Result, fatal. Post-mortem showed ascending colon adherent to right lateral wall, with a large, gangrenous mass and perforation. The appendicitis was secondary to this and not the cause of the trouble.

Case V. E. R., a boy of 15 years, carried free pus in the abdomen and pelvis for a week, attended school, went on a Sunday School picnic to a grove on Long Island Sound. He would lie around most of the day as he felt too tired to enjoy the sports of his companions. He could scarcely taste food as it nauseated him. Is it any wonder that he should have a sallow skin, hectic appearance, dull headache, nausea and general malaise, when he was traveling about with a quantity of pus in the abdomen, then unrecognized?

The following day he came to my office and was prescribed for by Dr. Muller who was attending to my work, as I was at that time in the country on vacation. The doctor told the boy to report if he grew worse or call on the following day. Dur-

\* Finally he consented to a second operation which revealed fecal festula. Gut closed on October 21, 1907. Discharged from Flower Hospital November 24, 1907.—Cured.

ing the night, his parents began to realize that there might be something serious the matter, so called in a second physician, and before morning a third, who recognized the serious condition of affairs and had him sent to the Roosevelt Hospital.

An operation revealed pus in the entire abdomen, due to an ulcerated appendix. The fact that gangrenous points were found on the lower border of the liver, with extensive peritonitis, proved that the pus had been there for some time. It is needless to say the termination was fatal.

I cite cases IV and V simply to show to what extent such conditions can go, which when unrecognized will surely terminate fatally, and to emphasize the fact that an early diagnosis and an immediate operation are imperative and will often save the patient's life.

It was not until I had numerous opportunities to observe the presence of pus in the pelvic cavity and the pathological conditions resulting therefrom, that I was able to recognize the early stages of this trouble and the gravity of the same.

The experience of the surgeons connected with the best hospitals, so far as I can ascertain, tell me their successful operations are upon cases sent to them by the graduates of our colleges who have had a hospital training, and are thus able to make an early diagnosis. While on the other hand, the vast majority of their fatal cases are those sent for operation as a last resort after the general practitioner has searched for the indicated remedy and tried the various expedients at his command.

Therefore, we have two classes of cases;—One fatal from the start, when due to grave systemic infection or where the surgeon is not called until too late for operative measures. The other kind is that which is early recognized, where the seat of the lesion can be located, as in pyosalpinx, and the offending mass removed. If this cannot be done or where the shock from an extensive operation would prove fatal, then it is a life can be saved by resorting to free drainage without interfering too much with the surrounding structures. As for example, in a walled off abscess of the appendix or any circumscribed collection of pus in the pelvis. Later, when the acute condition has subsided, a secondary operation will result in a cure.

214 East Fifty-third Street.

## ELEMENTS OF SUCCESS IN PRIMARY PERINEORRHAPHY.

BY GEORGE W. ROBERTS, M. D.

Primary perineorrhaphy, meaning repair of perineal tears immediately after they take place, has become a recognized procedure, and it is rare indeed that anyone is to be heard casting doubt upon the advisability of the operation. The principal text books upon obstetrics, the most noted obstetricians and gynecologists, as well as the vast majority of general practitioners either actively or passively approve primary perineorrhaphy in all except that small proportion of cases where marked contra-indications exist.

The reasons for this approval are manifold, perhaps the principal ones are:

1st. It lessens the likelihood of septic infection and absorption.

2d. It controls loss of blood.

3d. It saves the time necessary for recovery from secondary perineorrhaphy.

4th. It saves expense.

5th. It unites the parts before a certain amount of permanent shortening has resulted from long continued retraction of muscle fibers, and, therefore, when successful, gives the more perfect perineum.

It would not seem that an operation possessing all these undisputed advantages could be the subject of criticism: it is a fact, nevertheless, that every gynecologist who has the opportunity of examining and taking the history of a large number of general gynecological patients finds a large proportion of cases presenting the usual symptoms and physical signs of lacerated perineum, and yet who give the history of having had immediate repair by the accoucheur.

In fact we are inclined to believe that the majority of primary perineal repairs are inefficient, in that they leave a perineum which, while its skin surface may look normal, has all the other characteristics of severe laceration; and it is the object of this paper to open for discussion the principle and points which make toward success in this operation, which is perhaps above

all others the legitimate work of the accoucheur, be he a specialist or general practitioner.

It has been our good fortune to have the privilege of examining afterward some of the cases, which we have repaired at the time of delivery; and analyzing the causes of our failure, we believe that we have obtained some important information upon this subject.

One of our conclusions is that while a secondary perineorrhaphy is one of the most difficult and painstaking procedures in the field of gynecology, as a matter of fact, primary perineorrhaphy is more difficult than secondary, and the temptation to slight some of its details is greater than any other operation.

The causes of difficulty in primary perineorrhaphy are many:

1st. The operator himself is usually tired, belated, and anxious to terminate his visit.

2d. The patient is tired and often depleted and deserves her rest as promptly as possible.

3d. The surroundings are, as a rule, highly unfavorable for painstaking surgical work.

4th. The necessary facilities are often absent.

5th. The influence of medical sentiment tends to minimize the importance of the operation.

6th. The field of operation is obscured, not only by the blood which flows over it from the recently emptied uterus, but more particularly by the ecchymosis produced by the pressure of the child's head, as well as by erosion of the epithelium of the vaginal mucous membrane due to the friction between the head and the perineum.

7th. The parts are swollen, edematous, and friable; what wonder, then, that the execution of an operation which is always described as simple in the extreme, should often, under these circumstances, be imperfect and inefficient.

In addition to these specific difficulties, there is the underlying fact that primary perineorrhaphy is seldom regarded as an operation in the sense that the term operation is used between the profession and the laity. This procedure, on the other hand, is unfortunately considered as only an addendum to the delivery; it is even thrown into the bargain from a financial point of view.

We know of nothing which expresses the status of primary perineorrhaphy in the minds of both physician and patient bet-

ter than the commonly used expression, "He put in stitches," or perhaps the more significant remark of the physician, "I slapped in a couple of stitches and everything was all right."

Still another great bar to the success of many of these operations is the fact that the necessity of primary perineorrhaphy is regarded by a large portion of our physicians as an evidence of the skillful management of labor, and doubtless this is in many cases, true, but the fact remains that there is every temptation for the accoucheur to minimize the importance, deny the existence, and slight the repair of the perineum which has lacerated in his presence.

If now, these are the direct and indirect causes of failure in immediate repair of perineal laceration, what can we advise as a remedy for this situation? How can these cases be so managed that years later they are not obliged to undergo another operation long after the detrimental effects of lacerated perineum have asserted themselves.

We believe that a change in method is not in itself enough; that there must be a radical change in the view point of the obstetrician.

The conduct of labor and the repair of the damage caused by labor must be separated. The obstetrician must, in his own mind at least, conduct these two procedures from the view point of two different specialties: he must be both Dr. Jones, the obstetrician, he must conduct the labor to the best of his ability, and must there end his connection with the case. Smith then steps in, looks over Jones' work, or rather the work of nature plus Jones' interference, and must criticise that work most sharply. We may perhaps be forgiven for suggesting in this connection the obligation which Smith owes to Jones, not to the voice of those criticisms aloud, but to shroud them with the cloak of professional secrecy, for it must not be forgotten that in his hands lies Jones' professional reputation.

Smith, the gynecologist, should now proceed to operate this case, and in doing so, he bears in mind the special difficulties which are always to be met, and he prepares for them on the same principles that he prepares for all operative work.

Perhaps this may be illustrated by comparing the gynecologist's operation with the obstetrician's, and in this connection please recollect that the comparison is not intended to be invidious, but should it be so, it is true nevertheless.

The obstetrician sterilizes his needle forceps and a needle, by putting them in a solution of carbolic 1-40, and gets ready a bottle of antiseptic catgut, which bottle has been ingeniously arranged so as to make it impossible to get an aseptic ligature or suture out of it. The obstetrician-gynecologist, on the other hand, boils his gynecological set, consisting of: 2 long blunt retractors, 4 or 5 sponge forceps, 1 catheter, 1 pair long-handled blunt scissors, 5 or 6 stout needles of different curves, 1 mouse-toothed dissecting forceps, 2 or 3 artery forceps, and 1 sharp scalpel.

The obstetrician gets his patient ready by placing her cross-wise of the bed, and allowing her heels to rest on the edge of the bed frame (a fairly high bed being preferred).

The obstetrician-gynecologist gets his patient ready by putting her on a table, being sure that the hips are drawn down so that the perineum projects two or three inches over the edge of the table, that her thighs are well flexed and held in position by means of the Clover clutch, or some similar device.

The obstetrician is very careful to make as little disturbance about this putting in of stitches as possible; therefore he depends upon the numbness of the parts and the obtunded sensibilities of the patient for his anesthesia.

The obstetrician-gynecologist doesn't care anything about the disturbance that's made, and has no special regard for the bystanders; he therefore sends one of them out to get one of his confrères to come and anesthetize this patient, so that he can give his undivided attention to the work in hand, and can manipulate the parts with accuracy.

The obstetrician sterilizes his hands before beginning his operation with great care, he needs no assistance because he is only going to "put in stitches"; he then remembers to take some antiseptic catgut out of his patent bottle, during which process he very likely reinfected his hands.

The obstetrician-gynecologist sterilizes his hands after all other preparations have been made, and from force of habit maintains their sterility throughout the procedure. He needs an assistant for he is not merely putting in sutures, but is executing a difficult surgical operation, known as perineorrhaphy; he therefore superintends the sterilization of the nurse's hands (has acquired the habit of looking a number of different ways at the same time to see that she doesn't re infect them); has ar-



ranged his sterile towels, wipers, gauze, and all that compact apparatus which he has carefully thought out and arranged during his leisure hours, and the use of which has become a part of his daily habit, and he is now ready to operate.

The obstetrician introduces the first and second fingers of the left hand into the vagina, and spreading them apart, inspects the tear, after having wiped away the blood which is flowing down over the field, and quickly grasping his needle, which has previously been fixed in the needles forceps, by a very dexterous twist of his wrist, introduces the highest suture, which is quickly followed by another of the same sort, accompanied by a slight jerk and complaint of pain on the part of the patient. If the case is a very bad one a third stitch is introduced in a similar manner, and at the same moment the patient straightens out her legs (upsetting all technique, if any existed) after which all stitches are tied very tightly, so as to be sure that they hold, and "coaptation is perfect."

The obstetrician-gynecologist being assured that the patient is anesthetized, takes both his retractors, and with the assistance of the nurse separates the vaginal walls to their greatest depth, thus exposing the cervix, estimating, and if wise, repairing its injuries; he then temporarily packs its mouth with sterile gauze or wipers, thus damming back the flow of blood from his operative field; with a good light he observes that this patient has not only one laceration, but two or three, and he finds great difficulty in determining just what bleeding areas upon this great black and blue surface are lacerations, and which are erosions of the mucous membrane; he spends quite some moments in determining this point so as to be sure not to unite a torn surface against a merely raw surface. He finds that one of his lacerations extends deep down, besides the rectum, forming a pocket, which requires great care in the introduction of the sutures, so as not to allow the accumulation of fluids therein. He also finds many shreds of torn mucous membrane, the nutrition of which has been destroyed; these he clips off with the scissors, leaving the edges as smooth and even as possible. He uses his various needles, variously adjusted in his needle holder, to accurately approximate each torn surface, being sure that no muscle end slips back into the tissues and escape the needle puncture. Each stitch is introduced with the greatest nicety,

care being exercised not to tie too tightly, thus avoiding pressure necrosis.

The procedure is rather tedious, because he is introducing not two, but ten or fifteen sterile catgut sutures, and doing it so deliberately and painstakingly that they remain sterile at the time of introduction.

If the laceration is a deep one two or three of the stitches entering from the skin surface of the perineum are of silkworm catgut, and sometimes if pocketing exists, a counter puncture is made through the perineum and a rubber drainage tube is introduced for the first twenty-four or forty-eight hours.

The obstetrician now terminates his operation by giving the patient a bichloride douche, so that the mucous membrane may be as much irritated as possible, and all the albuminoid substances in the vagina formed into an albuminate of mercury. He puts on a large vulvar pad to catch the discharges and keep them in contact with the perineum, and incidentally to separate the upper part of the thighs to make still more tension on his tight sutures.

The directions to the nurse are that she shall change this pad twice a day, oftener if necessary, and that she shall catheterize the patient every eight hours, in order to keep the urine from irritating the womb, or, incidentally, in order that she may introduce a few bacterial colonies into the genital tract and into the bladder.

Should a certain amount of cystitis result, it can easily be explained as being one of the natural accompaniments of a severe labor.

The obstetrician-gynecologist terminates his operation by looking his field over thoroughly to see that the coaptation is as nearly perfect as he can make it; he removes the gauze packing from the mouth of the uterus, assures himself now that the uterus is empty and contracted, once for all; gives no douche, applies a small absorbent gauze pad to the vaginal outlet, directs the nurse to allow the patient to urinate voluntarily as early as she is able to, and not only this but to make every warrantable effort to have her urinate voluntarily; he directs the nurse to wash the perineum off, after each urination, by allowing two or three ounces of sterile water to trickle down over it, being careful not to disturb the parts during this pro-

cedure. He directs the nurse to use no douches unless the patient develops a marked rise of temperature or unless the lochia become foul-smelling.

The obstetrician terminates his connection with the case at the end of the proverbial fourteen days whether or no; the stitches and the after visits not being charged for but being thrown into the bargain, like the halter which goes with the horse.

The obstetrician-gynecologist examines his case at the end of ten or twelve days, and if the parts are in proper condition he discharges her; if they are not in proper condition he breaks to the husband the news that the patient will require a secondary perineorrhaphy at an early date. At the end of the month he sends an itemized bill, making reasonable charges for his presence at the confinement, his painstaking operation, and for each necessary after visit, not forgetting to include a fee for the anesthetist.

It may seem unnecessary to have described with so much minuteness the proceedings which we think should be gone through, following a process which is considered merely a physiological act, but in the opinion of the writer it is by this means, and by this means alone, that we shall be able to educate the public and the medical profession up to the point of a proper regard for the physician's work in connection with those confinement cases, during the conduct of which perineal laceration takes place.

So long as the importance of this subject is minimized in the minds of the public, so long will the physician feel himself compelled to hurry through and slight the operation; so long as the physician hurries through and slights the operation, so long as he fears that full knowledge by the patient and her friends of the consequences of the accident will result in criticism of his ability as an obstetrician, just so long will he fail to do his duty as a gynecologist, after his duty as an obstetrician has ceased.

## ANESTHESIA IN OBSTETRICS.\*

BY T. DRYSDALE BUCHANAN, M. D.

The actual giving of an anesthetic to an obstetrical case differs very slightly from the method employed in any other case, so a paper on this subject is perforce limited to the selection of the anesthetic and the effects of the drugs on pregnant women.

Chloroform since its discovery has been the favorite anesthetic for labor cases, many believing that the condition of pregnancy rendered the patient immune to unpleasant results.

Dr. John Bodine of New York City pointed out some time ago that many deaths attributed to chloroform were really due to fright and that by the time chloroform was used in labor the patient far from fearing the anesthesia welcomes its appearance. This absence of fear seems to offer a better explanation of the beneficent action of the drug than a mysterious immunity does.

Pregnant women offer no more contra-indications to anesthetics than other people except they are more susceptible to fatty degeneration of the liver or acute yellow atrophy from prolonged chloroform narcosis. While much has been written against the use of chloroform in obstetrical cases it still remains the most satisfactory drug for short obstetrical anesthetics. A protest, however, must be raised against its indiscriminate use. We should not assume that chloroform is indicated just because a woman is pregnant, for there is nothing about pregnancy that prevents the patient from exhibiting strong reasons for ruling out chloroform.

Chloroform anesthesia when prolonged has been proven beyond doubt to produce fatty degeneration of the heart, kidneys and liver, therefore it is contra-indicated in long operations, fat people, myocarditis (fatty or other), fatty liver, fatty kidneys, dilatation without compensation, anemia, shock and collapse. Authorities agree that it produces more harm to the kidneys than ether, thus ruling it out in all forms of nephritis.

Ether is contra-indicated in diseases of the respiratory tract,

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pronounced atheroma, dilatation without compensation, eclampsia, and where the actual cautery is to be used near the anesthetic. Ether is not contra-indicated in the athletic or alcoholic, but owing to the large quantities necessary in these cases chloroform is preferable until the surgical degree is reached, when a change can be made if desirable.

Bearing these points in mind, the obstetrician may prescribe his anesthetics as follows:

For examination under anesthesia either one may be used with safety, though the nitrous oxide ether sequences is preferable, owing to its rapidity. The simple examination during anesthesia has not in my experience produced miscarriage, nor have I been able to obtain any records of its having done so.

Curettage after miscarriage demands ether. Here we have a patient who is anemic from hemorrhage, actual experience teaching us that the anemic person is a dangerous one to give chloroform to. The anaesthesia should be light and the patient allowed to recover as soon as the curette is removed, otherwise the uterus fails to contract and dangerous hemorrhage is invited.

In the second stage of labor chloroform is preferable on account of its rapid action and is best used as follows: It is given drop by drop on an Esmarch mask. When the pains become unbearable the chloroform is given at the onset of the pain and continued until the acme is reached, when the mask is removed and the patient is allowed to recover. This is repeated at each pain. Given in this way, Dr. L. L. Danforth of New York City after many years of obstetrical work believes it not only safe, but that it promotes rather than retards labor, as the patient is more apt to help herself when the keen edge of a pain is removed than when she is suffering.

As the fetal head bulges the perineum and just as the head slips over the perineum anesthesia is produced to the surgical degree, not only to banish the pain but to retard labor, thus preventing the rapid expulsion of the head before the perineum is properly stretched. Anesthesia is stopped as soon as the head is born.

Dr. Danforth believes that anesthesia in the second stage of labor predisposes to post-partum hemorrhage and would warn us to guard the third stage, being careful that the mother has

recovered from the anesthetic and that the uterus is well contracted before leaving her.

For version, forceps high or low, symphyseotomy, repair of the cervix or perineum, chloroform or ether may be used. All of any of these operations, if protracted, should be done under ether.

Cæsarean section is best done under ether, while eclampsia with its abnormally increased blood pressure and spinal irritation is best antidoted by chloroform despite the kidney lesion present. Chloroform lowers blood pressure, while ether would still further raise it and is thus positively contra-indicated.

If chloroform be slightly heated it vaporizes thoroughly, acts quicker, and is less prone to occasion bad results. If it be vaporized by means of oxygen the risk of producing fatty degeneration of the tissues is greatly minimized, therefore the chloroform and oxygen combination of Northrup remains the method par excellence of producing chloroform narcosis.

Anesthesia seems to retard the placenta somewhat but not enough to be of any consequence.

One might fear the transitory cyanosis occurring in the mother during the gas ether sequence would be harmful to the child. This is not so; actual experience shows that the child upon birth presents no evidence of having been affected by the gas.

Believing that the jury is still out on the question of using the morphine-scopolamine combination the writer has not tried it in sufficient number of cases to place any value upon his opinion.

Intelligent anesthesia adds practically no risk to the labor and so should be employed in the majority of cases. It is seldom called for until the second stage, when it proves a boon to the patient and facilitates the work of the accoucheur.



## ATELECTASIS OF THE NEWBORN.\*

BY GERTRUDE G. MACK, M. D.

Congenital atelectasis, manifested by lack of respiratory movements or feeble respiration, with cold, pallid skin or marked cyanosis, is too familiar to all to require further elaboration. It is the writer's desire to more particularly emphasize the dangers attendant upon imperfect resuscitation.

When it is remembered that the infants most prone to present this condition are those that have been tediously or instrumentally delivered, leaving the attending physician wearied and anxious to hasten away, is it strange that he or she is satisfied, when the infant cry is heard and the nurse reports the child to be "apparently all right"?

The infant who disarms suspicion at birth by breathing without signs of cyanosis—who, because of its quiet and tranquil sleep, is classified as a "good baby"—or because of its failure to nurse, is called a "sleepy-head," is in danger of becoming a literal angel if allowed to indulge in this vegetative existence. These symptoms should invariably excite suspicion and lead to a careful physical examination of the chest.

The lower portion of the lung is most likely to be the site of the undilated air vesicles, though some cases, particularly those to which the writer wishes to call attention, are those where only scattered patches of atelectic lung tissue exist, giving negative physical signs because of the proximity of healthy air cells. The absence of physical signs in the presence of pulmonary symptoms, should be the chief guide to our diagnosis, coupled with the parturient history.

As pulmonary symptoms should be included

1. Absent or feeble cry.
2. Refusal to or feeble effort at nursing.
3. Constant sleep.

These three symptoms frequently obtain in the absence of cyanosis and labored breathing, the infant suddenly developing convulsions or dying from decarbonization of the blood, several weeks after birth—the diagnosis of atelectasis not being made

\* Presented to the Obstetrical Society, American Institute of Homeopathy.

unless the case reaches the autopsy table. The autopsy table with ante-mortem histories of such cases, first impressed upon my mind the relation between these symptoms and the atelectic lung.

Much valuable time, and often the child's life, is lost, while the physician is trying to find the "indicated remedy" to strengthen the baby's pharyngeal muscles to stimulate the sucking center in the medulla. Equally valuable time is lost while the mother's milk is being analyzed to discover its objectionable qualities. Milk analysis and indicated remedies are not to be decried in their proper place, but in atelectasis the simillimum is best found in regular, well administered spankings, and it may be noted here that under no other known circumstances does the sparing of the rod so thoroughly spoil the child. Inhalations of oxygen are productive of gratifying results in desperate cases. Hot and cold baths to the chest in alternation are also useful, but the most practical treatment and the one which is contra-indicated only when convulsions have developed, is the spanking. When convulsions develop, oxygen is the better remedy, given in connection with artificial respiration and hot immersion baths.

The appended brief histories of a few selected cases will illustrate the value of early diagnosis and the advisability of paying more than ordinary attention to the establishment of perfect respiration in the new born.

Case I. Baby V. Three weeks old on the occasion of my first visit. History of prolonged, though normal labor. Child cried at birth for period of a few minutes—respiration apparently normal thereafter. Never cried except when being bathed. A "very good baby." Nothing abnormal noticed by nurse or physician until lactation was established; then the baby would nurse for a few seconds and fall asleep, and no amount of coaxing would cause it to nurse. Neck massaged, mother's milk analyzed, "indicated remedies" given, all to no purpose, the child losing weight steadily. Physical examination revealed total absence of respiratory murmur over lower portion of both lungs.

Treatment: Spanking every two hours with inhalations of oxygen as soon as crying was excited—child placed at breast after each treatment. Result: Gradual, steady improvement in general condition, nursing fully established at end of three



days, no evidence of atelectasis by physical examination at end of a week and a half.

Case II. My own patient, Baby L. Child delivered after eight hour labor, which was perfectly normal. Mother extremely delicate, infant small, though perfectly developed. In apparently good condition from birth. At end of four weeks died suddenly. Autopsy revealed more than half the lung tissue to be in fetal state.

Case III. Baby A. Instrumentally delivered, semi-asphyxiated, resuscitated with difficulty. Appeared normal in every way after resuscitation. Another "very good baby" except that he didn't nurse well and suffered from indigestion, but with it all was "as good as gold," and never cried. Various remedies had been given, the mother exercised and dieted to reduce the proteids in order to correct the indigestion. When consulted about correcting the child's digestion, its history excited my suspicion, although there was an absence of physical signs. Regular spankings were prescribed, with most favorable results, a lusty cry was established, the baby nursed ravenously, and its indigestion disappeared with the mother's anxiety.

That a condition of atelectasis exists more frequently than is generally supposed, will be proven to every physician if cases are watched carefully, and receive needed chastisement from birth. Under the classification of "Blue Babies" many an atelectic infant has, I believe, been allowed to expire, because the absolute quiet, so essential to the maintenance of the life spark in the babe with defective heart, is the death warrant of the infant with undilated air vesicles.



SOME ASPECTS OF ABDOMINAL PAIN IN WOMEN,  
WITH REMARKS ON CONDITIONS SIMULATING  
PERITYPHLITIS. A SUPPLEMENTARY PAPER.\*

BY WM. CASH REED, M. D.

SUPPLEMENTARY REMARKS ON ABDOMINAL PAINS.

Pain is a complex phenomenon, and is usually regarded as consisting of three kinds :—

(1) Local, or that felt at the site of the lesion, and due to afferent impulses conveyed to the spinal cord and thence to the cerebral centers.

(2) Pressure, due to a lesion in the course of a nerve, but not necessarily felt at the point where the lesion exists, though in direct continuity therewith.

(3) Referred pain, viz., that depending upon the lesion in question, but felt more or less remotely from it. Moreover, in referred pain, nerve continuity cannot be traced.

To this well-recognized group I would add two other kinds, viz. :—

(4) Resting pain, which I have referred to in a former paper; and

(5) That which may be called habit pain.

This last requires careful handling to avoid pitfalls, as we shall see directly. Given a primary lesion, the pain connected therewith as a whole, let us say, is represented by *x*. What are its component parts, and what the proportion of each of these to the rest? We may have sufficiently studied and analyzed *x* into its component parts, namely :—

Local, pressure, referred and resting pains, but we are still confronted by the most difficult and sometimes the most discouraging factor of all, namely :—

No. 5, or habit pain.

The reason that to be confronted with habit pain is discouraging is obvious enough, for it depends largely upon the personal equation of the patient, and this may, or may not, be at first knowable to the practitioner.

Suppose, in a given instance, that the pain indications comprised under the headings up to No. 5 have been carefully

\* British Homeopathic Society, November 14, 1907.

weighed, and we have come to the conclusion that the trouble lies in a certain organ. That organ is removed, and everything goes on well, and the patient is obviously immensely better, but not absolutely cured. There is a shadow of pain in the old spot which alarms the patient, who considers it portends evil, not to mention the impression left on her mind that but a partial cure only is going to result from the operation. It is this wraith of the departed demon that I have called habit pain. "Rhythmic habit spasms," or "tics," as the Germans have it, in the domain of neurology are well known, and "habit cough," "habit insomnia," are common enough, so too, is habit pain, though we do not so readily recognize it.

The patient in whom habit pain is well marked is rather an illusive person from the practitioner's point of view, and may require all the arts of persuasion to be convinced that all pain eventually will assuredly be a thing of the past. In most cases this is certainly assured by the previous treatment of the actual lesion, hence the information can be conveyed with an emphasis which convinces.

I mentioned that this kind of pain requires careful handling, and so it does—especially when we are making a diagnosis—from the point of view of proportion. If we allow undue prominence to it in the role of our patient's sufferings we shall be hindered in our investigation of the other factors, and may even get so far astray as to call the case one of hysteria. Thus by-and-by there will be a cataclysm which we may richly deserve. "Habit pain" and "hysteria" are constantly confounded. A word as to treatment of this pain. It is summed up in one sentence, viz., give the patient an objective, and she, unless hysterical, is thankful to get it, thus incidentally clearing up the question as to whether the case be habit pain or hysteria. The objective may take the form of a bicycle on the one hand, or a sick neighbor who needs a kindness on the other. In fact, anything which shifts the contemplation of the ego to a more worthy object.

The following case presents fairly clearly the five-fold character of pain which I have thus but imperfectly described:

Mrs. L., aged 44, suffers from severe pain, the character and site of which I will immediately describe. She has a persistently retroflexed uterus, with no obvious complications in tubes

or ovaries. She has been married eight years, and her sufferings commenced shortly after. There have been no pregnancies. The catamenia are of the three-weekly type, moderate in amount, and their recurrence does not materially affect the patient's sufferings. Leucorrhea is moderate; the appetite is very good, and she sleeps quite well. The pains complained of are just below the left false ribs and in the renal region of the same side, also in the corresponding buttock. She described them as of a "scraping" character. There is pain also in the coccyx. The pain in the renal region and under the ribs is relieved on lying down, but sometimes only by tucking a pillow firmly underneath the aching area. The pain begins when the body is erect, sometimes even before the patient is fully dressed. Mangling and churning also make it worse. She has been told that she has a "dry pleurisy," and the negative intelligence has also been given that there is "nothing wrong with the womb." There is no evidence of rheumatism. Can it be possible that the condition of the uterus is responsible for all this? I confess it seems going a long way round the parish to find the church, but certain considerations definitely pointed to the condition of the pelvic organs as the real and only clue to the trouble.

Let the patient's statement be reviewed:—

First, she told me definitely that when I had supported the uterus with a pessary for a time, the pain in the lumbar region and buttock was relieved; this information was not much, perhaps, but it was illuminating as far as it went.

Further, I remembered the fact that some time ago I attended a patient in whom this renal pain was most persistent, and in her case was undoubtedly due to a chronic (gouty?) metritis. The pain in each case was not increased by pressure, showing that it was not due to deep-seated mischief, but was in fact cutaneous or subcutaneous. This was very significant, and is best demonstrated by pinching the skin over the affected area, when the former is found to be hypersensitive.

Further, I was also impressed by the fact—pointed out by Dr. Head as a matter of frequent observation—that after removal of an ovarian tumor the patient often complains of pain in the loins, which is eased by placing a small pillow in the hollow of the back. Presumably the cause is the sensitive stump of the pedicle. In the case I am using as an illustration,

the renal pain was so persistent that I had X-ray photographs taken by Dr. Holland to ascertain if calculus existed, but the result was negative.

Eventually in this case the suffering was so persistent that the uterus was removed, with immediate and permanent relief of the renal pain, thus fixing the dependence of the one on the other.

But to return to Mrs. L. Her pains were so persistent, and the diagnosis to my mind sufficiently clear, that I decided eventually to suspend the uterus by ventrofixation. This was done on October 14, when the following condition was found:—

The uterus was crumpled upon itself backwards, with much kinking of the broad ligament on each side of the fundus uteri, and seemed to fit into the pelvic brim like a stopper, and it required easing out with the points of one's fingers placed beneath it. I never before much believed in what has been termed the "ball valve" action of a retroflexed uterus, but I do now.

Having been lifted up, the uterus was suspended in the usual way.

Incidentally, I may remark that I now used iodine spirit silk and catgut for the first time, and had much reason to be pleased with them.

The ovaries and tubes were normal, but were tucked in and squeezed by the kinked uterus. The patient made excellent progress, and left the hospital convalescent in fifteen days.

This case illustrated fairly well the five kinds of pain I have enumerated.

(1) Local.—The pain in loco was not particularly marked, though when pressure was made on the uterus at the junction of the body and the fundus a complaint of it was elicited, a fact which is common in this type of uterine trouble.

(2) Pressure pain.—That in the buttock and coccyx was doubtless of this nature.

(3) Referred.—That induced and aggravated by vertical posture.

(4) Resting.—Partly intrinsic, and partly induced. It is very difficult to say how much of the renal pain was due to an unconscious attempt to relieve the system of its pelvic burden, and thus would come under this head, but that the pain was partly thus induced I am convinced. Moreover, the pressure

of the pillow jammed into the hollow of the ribs caused after removal an exaggeration of the resting pain.

(5) Habit pain.—This patient, though practically well, has sometimes a reminiscence of her pains. This can hardly be otherwise, seeing hers is a case less than three weeks out of the operating theatre, and I only mention it to complete the illustrations of qualities of pain.

#### SUPPLEMENTARY REMARKS ON CONDITIONS SIMULATING PERITYPHLITIS.

(1) Secondary infection of lymphatic glands situated in the right iliac fossa.—I have not under this head at the moment any specific instances to bring before you, and I speak now rather of a general impression of the truth of the above proposition.

Several instances, however, derived from contact with the very poor and often starved young adult at Roscommon Street, recur to one's mind, and a case will be admitted to hospital in a day or two which, I believe, will turn out as illustrative of the above.

Let me call to mind the anatomy of the deep lymphatic glands of the iliac fossa. There are three groups: (a) The external iliac; (b) the internal iliac; and (c) the sacral.

The first-mentioned are situated just behind the crural arch, and communicate with the femoral lymphatics and lumbar glands.

The next two possess this significant importance, viz., that they are affected in diseases of the bladder, rectum, and uterus. Thus it is not difficult to understand that in an inflamed condition of these glands from one or other cause, a toxin may be induced by the bacillus coli communis, when an abscess will result beneath the appendix, but also beneath the peritoneum. In such case it may be almost impossible to distinguish one disease from the other.

(2) Septic infection of the right broad ligament or Fallopian tube, with extension to the right iliac fossa. Innumerable cases of this, of course, occur, and are mostly due to the gonococcus.

When operating upon such cases the appendix should always be searched for, but it may be found normal.

(3) Ectopic pregnancy.—It is not necessary to follow this

analogy very far, for cases in which the two conditions may be confounded are not very common, and will probably become less so as the means for precision in diagnosis are increased.

(4) Hematoma of the right ovary.—I mean by this, hemorrhage distinguished from that due to the rupture of the Graafian follicle. I have not at hand sufficiently precise notes of such a case to give you, though I published one some time ago. I merely remarked under this head that an ovary lying so near the cecum, and having ruptured and produced a clot, the latter may be readily infected by an extension of the infection of the saphrophytes of the cecum by the bacillus coli.

(5) Leaking Fallopian tube.—That a slight discharge of septic material from the fimbriated extremity of an infected Fallopian tube may give rise to symptoms practically identical with perityphlitis I have no doubt. A case of this is at the moment sub judice, and an opportunity may soon arise for deciding whether this particular instance is a type of many of similar character.

The condition of things is due either to appendicitis as the patient has been informed, or to a localized cellulitis due to the cause I have named.

I believe it to be due to the latter, though, of course, the two conditions may and constantly do co-exist.

(6) Acute torsion of displaced right ovary.—It seems to me that this condition is commoner than is usually supposed.

I submit that it is allied to an acute torsion of the spermatic cord, which, though not very common, is most definite, and of which the pain is very acute and the sequel serious.

The reason why I think that acute torsion is more common than is generally supposed is the not infrequent purple appearance of an ovary during the course of an abdominal section.

I have no data to give upon this point, but think it very likely that some of the severe sufferings at the catamenia may be due to a temporary torsion of an ovary. Of course this is not seen, because an abdominal operation would never be done at such a time; considering, however, the character of the suffering of an acutely twisted spermatic cord, which we can see, it is very likely that a similar condition takes place with regard to an ovary, which we cannot see.

One case I will mention in brief:—

The patient is aged twenty-eight, and has attended for a long time at Roscommon Street for Dysmenorrhea. She is a frail and delicate girl, whose sufferings are intense. There is not a scrap of hysteria about the case. I will not weary you with details, except to remark that there is a prolapsed and very enlarged right ovary. After endless treatment, I advised her mother to have this removed. This was done a few weeks ago. The ovary was found three or four times larger than normal, and filled with cysts. The patient in due course went to Woolton Convalescent Home, and I saw her on Saturday last, when she gave me this information:—

The catamenia had occurred once since the operation. The pain, instead of beginning five or six days before, commenced two hours before. It was only slight, and she thinks it was really more a question of apprehensiveness than anything else. Moreover, it lasted three hours instead of five days. She has gained in weight, and is resuming her occupation of a seamstress, which she has had to lay by for eighteen months. I have no proof that there was temporary torsion in this case, but it is typical of many cases in which I submit that it is likely.





THE RELATIVE MERITS OF ABDOMINAL AND  
VAGINAL HYSTERECTOMY AS SEEN THROUGH  
A TWO-THIRD OBJECTIVE.\*

BY L. C. M'ELWEE, M. D.

That all observers of a given act or phenomenon do not see it alike is such a common occurrence that it has long been axiomatic. That honest difference of opinion on this very important subject should exist is, therefore, not surprising. My individual experience and observation probably enable me to judge of the relative merits of the two operations, with about the same maturity of judgment that one would manifest when finishing a blood count after having used a 2-3 and a 1-10 (dry) objective. But that which is seen with a low power is seen with such clearness that this fact alone is likely to bias one in any consequent judgment formed. To begin with—

(1) It must be obvious that individual preference will be a very potent, if not the dominant factor in electing which operation he will do. Whether this preference exists before or after a thorough examination and diagnosis of the individual case is most important. For we believe that no operator should take the position that such and such ends shall be accomplished so and so. The necessity of individualization in the choice of operations having a common end or object is, or ought to be, as great as the individualization of the "indicated remedy."

(2) The next factor most likely to determine in a given case the selection of sites, is the ease of facility with which the work may be done, involving as it must the length of time required to accomplish the task, as well as freedom from excessive manipulation of the parts, and carries with it increased probabilities of infection and the extent of shock, when a long time elapses during the operation, and the probability of post-operative vomiting, and

(3) The facility with which each step and detail of the work may be seen.

(4) The conditions peculiar to the particular patient, and

(5) The conditions peculiar to the parts involved.

Ordinarily it is not advisable to operate against time (as is the custom of some celebrated surgeons, as well as others not so

\* The Surgical and Gynecological Society.

celebrated). But there can be no kind of question that the patient who has a given operation performed in twenty minutes would fare better, other things being equal, than if the operation should last an hour.

The admonition, then, is obvious that surgical work should be done with as much dispatch as possible consistent with deliberation, mechanical and technical thoroughness. Here, of all places, comes most strongly into play the personal equation of the operator,—the real art of surgery. One operator, for instance, is able to open the abdomen with safety and precision in thirty seconds, which another operator may consume two minutes in doing, and so on throughout all the technical details. This feature is more influenced by practice than any other. The relative time consumed in doing the two operations by a given operator seems to favor the abdominal route.

The increased likelihood of infection must be apparent to the most casual observer where the time is extended, by whatever consideration; else what is the meaning of rubber gloves, the muslin cap, and the gauze muzzle? The hands may be sufficiently sterilized for work requiring but a few moments with consequently little friction and desquamation, but the protection of the rubber or other gloves is necessary when the time and manipulations are extended. There is not much danger of chance of infection when the work is brief enough that the operator or assistant does not find it necessary to peer into the depths of the operative field, with perspiration dripping from his face, and dandruff and hair dropping from his head into the field, but the necessity and use of the cap proclaim the need of the prevention of these dangers.

The moist gauze mouth muzzle, obstructing as it does the tidal contact of the germ-laden breath of the operator, speaks loudly in witness of the necessity of celerity, for the fewer respirations of the operator, the fewer the chances of wound infection. We have only seen one operating room in all the world which had the chances of dust infection reduced to a minimum, it being that of Dr. Kocher at Berne, Switzerland. The sides and roof were of glass and the floor granitoid, sloping gently from the sides to the centre, which was raised about an inch in a cone-shaped elevation, the apex of which was the opening of a trapped drain pipe.

Perforated water pipes were strung at the junction of the ceiling and walls, from which myriads of tiny streams of water poured against the walls of glass and ran down to and over the floor becoming, on account of its shape, about an inch deep; all persons in the operating room being compelled to wear rubbers to keep the feet dry. All the air in the room, therefore, contained no more dust than was found in the air coming into it from the heart of the Alps, the shuffling feet and the swishing skirts of the necessary assistance so much in evidence hereabouts, not being able to kick up much of a cloud of dust. Contemplating these facts, must not the conclusion be unavoidable that the shorter the time exposure, the less likelihood of infection of any kind?

Because of the limited exposure of the operative field and the position of the operator and assistants, the vaginal route probably predisposes less to infection from the air. But the greater amount of manipulation would seem to increase the predisposition to manual infection. The greater ease and certainly of sterilization of the abdominal site seems to incline one to the choice of the former over the latter.

The shock following the abdominal operation is appreciably greater than that subsequent to the vaginal, and if the case should be one in which there is considerable shock from any other cause, the question becomes acute as to how much more can be safely borne. The indication for the vaginal route in a case of that kind would be self-evident,—other conditions being equal. To avoid shocks entirely is, of course, impossible, but the duty to reduce it to a minimum is imperative.

Since spinal anesthesia with tropho-cocaine has come into use, it is claimed by its advocates that shock is a very small factor in any case and post-operative vomiting unknown; so that in such a case one ought reasonably select the vaginal route with spinal anesthesia. Pain, however, in one form or other, as a consequent, seems to be more characteristic of vaginal than of abdominal hysterotomy. Whether this point is seen differently through objectives of higher power or not, we do not know. But the wonder would be if it were otherwise, since there are so many more nerves in a state of traumatism in the vaginal than in the abdominal operation. Nausea, though, is greater after the vaginal method and adds to the shock. It is claimed

by the advocates of spinal anesthesia that this evil is entirely avoided by their hobby. Let us indulge the hope that they are right and that spinal anesthesia may have come to stay.

The clearness with which each step and detail of the operation may be seen by all parties is a consideration of such magnitude that it must be apparent to all. There ought to be no kind of question as to which is the better, therefore safer, operator, when the choice lies between two surgeons, one of which exposes every step and detail to the open inspection of all beholders; the other working under cover, guided almost entirely, as he would have you believe, by the "tactus ruditus."

The usual assumption of imperial superiority, by the occult operator, we opine, is too often a cloak for actual inefficiency rather than a manifestation of consummate skill.

The conditions peculiar to the patient are most likely to be those of physique, which are likely to be the relative thickness of the abdominal walls, age, and present condition of skin over abdomen, which are inseparably connected with the condition of the parts involved. Of these, adhesions of whatever kind in supra-vaginal structures are probably most frequently encountered. These in turn are probably most often associated with tubal trouble or cancer of the cervix having extended to the body of the uterus with considerable softening, where the uterus contains more or less myomata, or where one or both ovaries are the seat of tumors of one kind or other.

Should the abdominal parietes be extra-thick from adipose development, and there should not be any history or signs of possible pyosalpinx and no considerable adhesions encountered, the vaginal route would in all probability be the better, but either of the two latter complications would make the abdominal route imperative. Particularly is this accentuated by the death of two patients under treatment of the writer, where only a simple curettage was done, the necessary drawing down of the uterus during this operation being sufficient to tear open the small but friable pus tubes, allowing the escape of pus into the abdomen with death ensuing on the 3d and 5th. days. Should the uterus be imbedded in a mass of inflammatory adhesions or buried in another mass of inflammatory products, the difficulties and uncertainties attendant on a vaginal hysterotomy would be so certain and so many that the average opera-

tor will find life better worth living while operating through parietes than by means of excavation. Or if the uterus is the subject of myomata, the abdominal route may enable the operator to avoid any more radical work than a multiple myomectomy—serious enough it is true, but mostly, not sacrificial.

Should a pus tube or tubes complicate incipient cancer of the cervix, there can be scarcely a question as to which way to take the mass out; the abdominal route alone promising any considerable degree of safety, and when cancer has even considerably involved the cervix, the greater ease and assurance the operator has in doing a pan-hysterotomy is so apparent that there (seemingly) should not be any hesitancy in selecting the abdominal site. It is claimed by some esthetic operators that the cosmetic effect of an operation should strongly influence an operator in selecting the site, and, for illustration, have adduced this very operation, claiming that sensitive patients are often made melancholy by the oft-recurring sight of the abdominal scar when undressing. That such a reason has force in it is not to be denied, but we are inclined to think that such a consideration should not weigh materially against the patient's greater interests.

Anyone can see with half an eye that in procidentia of almost whatever degree the vaginal route is more preferable, and in those cases when intractable "reflexes" are sought to be overcome by removal of the uterus, the vaginal route ought reasonably to be preferred. But in any case where obstinate or more or less concealed hemorrhage is encountered, the supra-pubic site seems most advantageous to us. Now we are not at all favorable to the idea that there should be a "fashion" in methods of accomplishing certain ends by a given operation, or that one should say that he will reach a given end in an invariable way, but plead for the individualization of the operation as earnestly as the therapist does for the indicated remedy.

A brief mental retrospect of the points pro and con of the two operations leads to the conclusion that abdominal hysterectomy may be done quickly, easily and thoroughly oftener than the vaginal way and will probably be indicated in the greater number of cases.

## EXPERIENCES IN THE SURGICAL TREATMENT OF ULCERATION OF THE UPPER ALIMENTARY TRACT.

BY FRANK MAGAREY, M. D.

The surgery of the upper abdomen has been the subject of a continuous "boom" for the last few years, following in its turn the female pelvis and the appendix. The sustained interest in the advances in the surgical treatment of affections in this region is due to many causes. In the first place they are very frequent. Then, again, their diagnosis is of great difficulty. When one considers the similarity in symptoms, at least in the earliest stage (the time when diagnosis is most important) of gallstone colic, acute cholecystitis, perforated gastric and duodenal ulcer, and acute pancreatitis, the diagnostic problem is readily seen to be a puzzling one. Other diseases, which have no proper business to complicate the diagnosis, such as appendicitis, diaphragmatic pleurisy, and stone in the kidney, occasionally sharpen the horns of the dilemma on which the general practitioner finds himself; for (and this is the chief cause for the continued interest in these cases) it is the general practitioner who is primarily responsible for immediate diagnosis, and in many cases this is synonymous with saying that upon his clinical acumen depends the life of his patient.

In view of these facts I have thought it desirable to bring forward the following three cases, partly in the hope of eliciting the experiences of others and partly on account of certain unusual features which they individually present.

### I.—Perforated Gastric Ulcer—Operation—Death.

Mrs. E. D., aet. 28, was treated for indefinite dyspeptic symptoms for a fortnight before being seized, at 6 p. m., with sudden intense epigastric pain. The doctor in attendance suspected a ruptured gastric ulcer, and being confirmed in his diagnosis sent her to the hospital next morning, after giving a hypodermic injection of morphia. I did not see her, however, until two o'clock in the afternoon, 20 hours after the onset of pain. I found her in an excitable, talkative condition, with a pulse of 150. Examination showed the abdomen to be markedly dis-

tended and motionless, tympanitic in front, and dull in the flanks. A fluid wave was readily elicited. The liver dullness was not obscured. A diagnosis of general peritonitis from ruptured gastric ulcer was made, and immediate operation undertaken.

Under ether the abdomen was opened in the epigastric region, slightly to the right of the middle line, and a quantity of bile-stained fluid, containing lymph and food, escaped. The patient immediately collapsed. Her desperate condition and the promise to get her back to bed, alive, which the husband had extorted from me for obscure religious reasons, rendered prolonged operation impossible. An incomplete examination of the stomach failed to disclose the ulcer. I therefore introduced a tube and inserted a considerable quantity of gauze over the anterior surface of the pyloric end of the stomach, with a faint hope of isolating the point of rupture, and proceeded to open the posterior vaginal cul-de-sac. This was rapidly effected and a double tube surrounded by a mass of gauze inserted. The patient was now in extremis. Two pints of saline were given intravenously, she was put back to bed, and the continuous rectal saline drip adjusted. Eight hours later the pulse was barely countable at 152, and patient was in intense pain.

Next morning the bowels were opened ; there was repeated retching, with the ejection of a brown fluid. Both drains were acting effectively. Pulse, 136. Nutrient enemata were given and were well retained.

The next day showed little change in patient's condition, but on the 30th the pulse dropped to 102. The vaginal drain, ceasing to discharge, was removed. The following two days saw considerable improvement. The general nutrition was well maintained by enemata, and the pulse fell to 84. On dressing the abdominal wound, however, a quantity of fecal matter escaped, showing that a perforation of the transverse colon had taken place, probably due to the pressure of the tube and gauze upon a bowel wall already injured by inflammation and possibly accelerated by the action of the gastric juice. The presence of this complication and the added danger of infection, coupled with the effectiveness of the nutrient enemata, determined me to postpone the gastro-enterostomy I had contemplated. This proved to have been an error, for two days later the patient

showed signs of malnutrition and the pulse increased in frequency. As the gastric contents were discharged wholly through the wound, a new communication between stomach and intestine seemed to be imperative, but as I could not guarantee a certain recovery the husband refused permission. The patient sank steadily, and died of starvation on August 8th.

The chief interest of the case lies in the subsidence of an intense general peritonitis under the influence of drainage assisted by the continuous rectal drip. Exactly why this method of introducing fluid into the system should be so superior to others is not evident, but my observation not only of this but of several other desperate cases has convinced me of its efficacy. In the second place, a perforation which had been sufficiently patent to cause a general peritonitis was rendered harmless to the peritoneal cavity by the gauze tamponade. Of course one would not suggest such a treatment except in cases like the one recorded; but that such a protection is possible may well suggest operation in cases where the shock of prolonged surgical procedure, such as would be entailed in finding and suturing a perforation, would preclude interference.

I think it is not too much to claim that had I not been dissuaded by the fecal fistula from performing a gastro-enterostomy at the appropriate time, the patient would have had a good chance of ultimate recovery; and the colonic complication was an accident, which is hardly likely to be a common one.

It has always appeared to me that in all cases of peritonitis, which left alone will certainly die, and where operation gives the most insignificant chance of recovery, it is the surgeon's duty to give the patient that chance; and the case I have recorded seems to show that even in the apparently most desperate cases recovery is to be hoped for.

## II.—Subphrenic Abscess—Duodenal Ulcer—Operation—Recovery.

Mr. T., aged 51, was seized suddenly by a violent pain in the region of the gall-bladder, which completely doubled him up. He was seen by a medical man, who diagnosed his condition as gallstone colic, and controlled the pain by large doses of morphia hypodermically. His general condition, however, did not become satisfactory. Constipation was very marked. I saw



him on the third day of his illness. There was nothing definite in his previous history. Irregular indigestion of no definite type was the only illness from which he suffered. I found a very anxious-looking man, pulse 100, temperature 101 degrees. This was the first rise of temperature noted. He was clearly jaundiced and the urine showed bile. On exposing the abdomen a distinct rounded prominence could be seen and felt beneath the right rectus below the costal margin. Intense local tenderness seemed to point to acute inflammatory mischief, and I made a diagnosis of empyema of the gall-bladder and advised operation. Refused. Grew gradually worse, and on the fifth day Dr. J. C. Verco saw him and discovered about half an inch of fluid at the right base and diagnosed subphrenic abscess. Sent to a private hospital. On the sixth day examination showed two inches of dullness at the right base behind liver, dullness absent in front, but a prominence evident below costal margin. Apex beat normally placed. Patient evidently very ill with a drawn, gray face—very much worse during last 24 hours. Pulse 80, respiration 22, temperature 101.6. Urine normal, except that it was bile-stained.

Next day I operated under ether anesthesia. A needle introduced into pleura drew off bile-stained fluid. One and a half inches of the tenth rib were resected in the axillary line. Attempt to close the pleura was unsuccessful, and pneumothorax was established. Needle introduced through diaphragm disclosed presence of brown foul fluid. Knife inserted along needle and a long sinus forceps introduced, followed by the finger. Several pints of intensely fetid fluid escaped. A further attempt to close the pleura was successful, but as it had been infected discretion was deemed the better part, and it was drained by resecting the ninth rib behind the posterior axillary line. A large tube about a foot long inserted, and wounds partly closed. Patient's condition bad on leaving table, temperature 101, respiration 46, pulse 108, and very weak.

For the next two days he was with difficulty kept alive by strychnine, brandy and nutrient enemata; and then he steadily improved until the twelfth day, when he had an attack of heart failure, which for 24 hours seemed certain to prove fatal. Under persistent stimulation, however, he rallied and slowly recovered his strength.

His present condition, two years after the operation, is satisfactory. For a long time he could not raise his right arm above the shoulder, but he has full use of it now. His right chest has fallen in considerably, and the breath sounds are weak, showing that the expansion of the lung is by no means complete. He is eating his full diet without pain, and weighs more than he has done for 20 years, so that interference is not considered desirable.

I would call attention particularly in this case to the difficulty in diagnosis. Almost certainly the primary lesion was ulceration of the pyloric end of the stomach or of the duodenum. There were no indications of its presence before rupture, and although a cynic soured by sad experiences in the surgery of the upper abdomen might look upon that fact as evidence in its favor, the conclusion is not legitimate. The normal temperature maintained for 36 hours after rupture, followed by a rise of three degrees, synchronous with the appearance of jaundice and an enlarged tender gall-bladder, might well have justified my diagnosis of empyema of the gall-bladder, due to impaction of a stone in the cystic duct. Looking back upon the history, I can see that sufficient weight was not given to the intense sudden agony of the onset (gallstone colic as a rule giving warning of its coming by a few minutes or longer of less intense pain) and to the obstinate constipation ascribed at the time to morphia but which should perhaps have suggested intestinal involvement.

### III. Severe Bleeding from Duodenal Ulcer—Gastro-enterostomy—Recovery.

For the following notes I am indebted to Dr. C. T. Cooper, in whose care the patient was. On the 27th of May the patient, who had suffered for many years from asthma and bronchitis, had an alarming bleeding from the mouth. Dr. Cooper found him very pale, with a small, rapid pulse. Rhonchi and crepitations were audible over the whole chest, and especially at the right apex. The friends stated that he had pneumonia two years ago, and volunteered the remark that he had weak lungs. Dr. Cooper and I considered the case to be one of phthisis with hemoptysis. Next day he vomited about two pints of dark blood. Dr. Cooper at once suspected an error, and careful in-

quiry elicited the fact that he had suffered from hunger-pain so clearly marked as to make a duodenal ulcer certain.

During the next few days he had two more light hemorrhages, and was therefore put to bed for three weeks and fed chiefly by the bowel. He improved under this regimen, but a month after returning to work he vomited 1½ pints of blood and gave a history of having passed tarry stools for some time previously. After two weeks in bed he once more began work, but the melena reappeared, and he rapidly lost strength. Dr. Cooper advised operation, with which opinion I concurred on seeing the patient, and it was arranged for the following Monday. On Sunday, however, the patient became so weak from the continued loss of blood that further delay was impossible. Accordingly he was removed to a private hospital, where, with Dr. Cooper's assistance, I performed a gastro-enterostomy. The patient's condition was so bad as to render any undue prolongation of anesthesia and manipulation unwarranted, so no attempt was made to purse-string the ulcer, which was indicated by adhesions about the first part of the duodenum. No ulcer could be felt from the outside of the stomach. Six hours after the operation fluids were given by the mouth, the patient's condition being extremely grave. Next day saw a slight improvement, but it was not until five days later that he had sufficiently recovered to enable one to entertain strong hopes of his recovery. The diet was increased in quantity at a greater rate than one would perhaps have recommended had not the need of nourishment been so urgent, but no ill consequences followed. The patient is now well and strong, and has had no further hemorrhage. It is still too early to say that he is cured, but I have little doubt that he will continue well.

There is some dispute still as to whether it is wise to suture the ulcer at the same time as the short circuit is made. It is true that it is not always necessary, but notwithstanding the advice of many, it certainly does seem more rational to suture wherever not too much difficulty is to be foreseen.

The severity of the bleeding in this case makes it worth recording. Moynihan in his work on "Abdominal Operations" gives 28 cases in which operation was undertaken for hemorrhage in ulceration. In only four of these, however, was the ulcer purely duodenal. Our patient was evidently dying of

hemorrhage, which was stopped at once by the short circuit without suture.

The case also illustrates the poor results given by medical treatment, which, in this instance, was most thoroughly tried by Dr. Cooper. This is only to be expected, as even complete abstinence from food does not prevent the passage of the acid juice, and under such circumstances healing, if possible, would be so slow that rectal feeding would fail to keep up nutrition long enough.



## AN OPEN CONTINUOUS DROP METHOD OF ADMINISTERING ETHER.

BY ALEXANDER BROWNLEE, M. D.

Ether, as is well known, has been given in various open and semi-open methods for many years. For the past twelve months I have been giving ether by an open continuous drop method.

The apparatus is simple and inexpensive. The mask should be slightly larger than the ordinary, and fit the face closely. It is covered with about 16 layers of sterilized gauze. The drop bottle is an ordinary 6 oz. bottle, with a plain cork in which two grooves are cut. One groove is larger than the other, and a strand of wool passes through it, the smaller groove allowing air to pass into the bottle and the ether coming out by capillary action. By means of this simple arrangement a steady drop is obtained. Although I have tried many of the ordinary drop bottles, I have not been able to get the same regular steady drop with one of them. I find it best to have two drop bottles, the grooves in the corks being cut so that a large drop is got from one and a smaller drop from the other. It is essential to bear in mind that ether should never be poured on the mask. If this be done, the result generally is that some ether gets into the patient's mouth and there is an attack of coughing. In some of my early cases, in which I fell into this mistake, a rigid condition of the abdominal wall was the result, and I had to dispense with ether and "push" the administration of chloroform to overcome it.

The patient having been put on the table, the mask is placed

on the face, and the administration commenced by slowly dropping ether on the mask until the patient becomes somewhat accustomed to the smell. The ether is then dropped more rapidly, and the mask surrounded, if necessary, by a towel until the patient's face is completely hidden. As the patient goes "under" the towel may be removed. The administration can then be continued with the smaller drop bottle. I am bound to say, however, that I find considerable difficulty in inducing anesthesia in strong or alcoholic men by this means, and in the case of such subjects I begin with a mixture of chloroform and ether ( $\text{CHCl}_3$  1 part, ether 3 parts), get the patient fairly well under with this, and then continue with ether alone. Once anesthesia is established there is no difficulty in maintaining it. In the cases of children, women, and in men in any way emaciated or weak, complete anesthesia can be induced by this method with ether alone in from three to ten minutes.

Up to date I have conducted 257 administrations, and the results have been, I consider, highly satisfactory. The ages and conditions of the patients operated on have varied within wide limits. Thus my youngest patient was 2 years old; my eldest 73. The cases have included all classes of patients—strong, healthy men, alcoholics, neurotic women, patients emaciated by malignant disease and other debilitating conditions, and serious accident cases. The shortest administration lasted seven minutes, the longest three hours. In the great majority of the cases the condition of the patient was very satisfactory. There is not the anxiety associated with the administration of chloroform, while many of the objectionable features of ether administration with the Clover or other closed apparatus are eliminated. There is less secretion of mucus than when the latter is employed, and the respiratory excursions of the abdominal wall are not so vigorous—a point not without importance to the surgeon in operations requiring fine manipulation. The breathing is invariably of a regular snoring type, the pupils moderately contracted, and reacting very sluggishly, or not at all, to light, and the color is good. The last point is one which presents a great contrast to the condition almost always prevailing when a closed apparatus is used—that of cyanosis.

As regards after-effects, post-anesthetic sickness is lessened,

and there is assuredly less shock than when chloroform is used. In the course of my administrations by this method I have only had one really bad case.

The patient was a boy aged 16, with advanced tuberculosis of the knee-joint; excision of the knee was performed, and the operation lasted an hour and a half. Anesthesia was induced and maintained throughout with ether by the drop method. For forty-five minutes the patient's condition was good, and presented the ordinary signs of ether administered in this way, but at the end of that time it changed, the breathing becoming shallow and the patient pale and cold. The pulse, however, remained fairly good. The anesthetic was withdrawn for fifteen minutes without any sign of consciousness returning, but he then developed a clonic condition of the muscles of the leg, and the operator desired more anesthetic given. This was done but as he soon showed signs of extreme collapse, it was withdrawn entirely and finally twenty minutes before the operation was finished. Half an hour after being returned to bed there was no improvement in his condition, and the ward sister remarked that he seemed to be very deeply under the anesthetic. An hour after the termination of the operation the resident medical officer ordered a brandy-and-coffee enema, but it was not retained. However, after sleeping for three hours, he gradually came round, and ultimately made a complete recovery.

In contrast to this, I have had many cases where prolonged operations, involving considerable shock, have been extremely well borne.

A man of 46, suffering from carcinoma of the stomach, bore an extensive operation very well, although the ultimate result was unfavorable. In this case about three-fourths of the stomach was removed, together with a part of the duodenum, the hepatic flexure, transverse colon, and splenic flexure. The operation lasted two hours and twenty-five minutes, and the patient left the table with a pulse of 84. He did well for four days, but on the fifth day he developed symptoms of pneumonia and died within twenty-four hours.

Another case was one of prostatectomy in a man of 71. This patient was in very bad condition, as he was slightly under the influence of morphine and was suffering from toxemia. The

breath had a urinous odor. The operation lasted one hour, but he stood it well and made a complete recovery.

The longest administration—three hours—was for the removal of gallstones. The operation was well borne, and the patient made a perfect recovery.

One case, where death was possibly attributable to the anesthetic, falls to be recorded. This was a case of goiter in a girl of 19. Anesthesia was induced with the C. E. mixture and maintained with ether. The whole administration lasted seventy minutes, and there was no cause for any anxiety throughout. However, on the evening of the operation the temperature shot up, physical signs of pneumonia developed and she died on the fourth day after the operation.

In summing up I may say I do not claim that this method of administering ether is perfect. It has, like other anesthetics and methods of administering them, advantages and disadvantages, but the former in my opinion far outweigh the latter.

The only disadvantages I have experienced are: (1) the difficulty in inducing anesthesia in strong or alcoholic men in a reasonable time with ether alone; (2) the quantity of ether used, which is undoubtedly greater than when a closed apparatus is used.

The advantages are numerous: (1) it is cleanly in the surgical sense. The mask can be boiled and sterilized gauze used. Contrast this with ether administered with a closed apparatus, where the patient rebreathes his own expired vitiated air from an apparatus which cannot be sterilized and is in fact with difficulty kept clean. (2) The cyanosis, violent respiratory movements, excessive secretion of mucus with the consequent gurgling, frothing, coughing, etc., are greatly diminished and in many cases entirely abolished. (3) There is less shock than when chloroform is used. (4) Many of the unpleasant after-effects commonly associated with ether administered from a closed apparatus, are done away with.

Remarks by J. Lynn Thomas, M.D.

The first time I saw the method used was at the hospital of the brothers Mayo, of Rochester, Minnesota; subsequently I saw it employed in Dr. Ochner's practice. Having seen the method used over a hundred times, I was favorably impressed

with it, and it has been adopted almost entirely in my practice during the last twelve months. Its advantages over giving ether in Clover's inhaler are:

- (1) There is less capillary hemorrhage during operations.
- (2) There is less sickness after operations.
- (3) The surgeon is not bothered with a bag, which may or may not be sterile, when operating about the chest, neck, face, or head.
- (4) The whole mask is easily sterilized.
- (5) There is much less anxiety to the surgeon when it is given by an anesthetist of little experience.

In one of the cases referred to by Dr. Brownlee the operation lasted two and a half hours. After removing three-fourths of the stomach and a large portion of the duodenum, together with the whole of the transverse colon with its mesentery and glands, I had to occlude the ends of the duodenum, of the ascending colon, and the descending colon, and had to perform a gastro-jejunosomy under difficulties, because the stump of the stomach would not be brought out to the surface. I had also to perform an ileo-sigmoidostomy, and although the operation was very extensive the shock could not have been less. The patient recovered and was quite cheerful within six hours.

So far I have seen no case in which there has been any anxiety from the administration of the anesthetic, either during the operation or subsequently. I consider it a method well worth trying, as it is simple and clean, but a little more expensive on account of the larger quantity of ether used.





THE DUTY WHICH WE, AS HAHNEMANNIAN  
PHYSICIANS, OWE, NOT ONLY TO OURSELVES,  
BUT TO THE PROFESSION AT LARGE.

BY RUDOLPH E. RABE, M. D.

In the Middle West, a very active crusade has been in progress for the purification of practice in the homeopathic school. Much surprising evidence has been brought to light showing that either homeopathy has been most maliciously traduced or else that its exponents in high places have an absolutely faulty conception of the foundation principles of our art. There is very much to be said in the discussion of either of these propositions, but it is without the province of this paper to deal with this phase of the question at the present time. As a possible aid to the solution of the problem there occurs to the writer the thought that a vulnerable point in Hahnemannian practice may have much to do with the present misunderstandings and consequent acrimonious discussions in our school. This vulnerable point may be described by the single word "diagnosis."

In a paper by the writer read before this society last year, entitled, "Does the consideration of pathology and diagnosis interfere with the making of a successful homeopathic prescription," the conclusion arrived at reads: "And finally in conclusion it may be said, that in the treatment of disease it is the patient who is to be prescribed for and not his disease; therefore, a consideration of pathology and diagnosis, while very necessary to the proper conduct of the case and to an estimate of what is or is not curable by the dynamic remedy, is nevertheless not essential, and may at times be a real obstacle to a successful homeopathic prescription. For us, the totality of the symptoms must ever remain the true guide to the selection of the simillimum."

This statement fairly represents the Hahnemannian idea of the rule of practice; and obedience to this rule, it will be readily acknowledged, brings the most successful results.

Disobedience leads to confusion, discouragement and disaster, and yet it is right here that a proper conception of this question is so very essential to our progress as a school. The

trend to-day in the homeopathic school is decidedly toward more exact methods in the diagnosis of disease. Pathology, bacteriology, hematology, physical diagnosis, etc., are assiduously taught and studied; often, it is true, to the detriment of homeopathy itself. The importance of "Knowing just what is the matter" is more and more recognized. This is as it should be, and whatever makes for precision in diagnosis should be welcomed by the Hahnemannian physician. The time has gone by when it could be said "I cured a case of fever with hyoscyamus." To have any value at all such a statement must include a declaration of the cause and nature of that particular fever which hyoscyamus cured, as well as the peculiar symptoms of the remedy which may have been verified. Our medical journals have often contained reports of cures in which the diagnosis has not been satisfactorily proven, and thus many weird statements have been made, most wonderful cures have been reported, and homeopathy placed in an absurd light. In a recent number of one of our journals is reported in a most unconvincing manner the cure of a case of cerebro-spinal meningitis in a four-year-old child. The recital of this case does not prove the correctness of the diagnosis and one is left with a feeling of strong doubt as to what was really cured. It is true that the child recovered from a severe illness, that symptoms of two remedies used in the case were verified, which verification, of course, is of value to us as *materia medics*, but homeopathy cannot, in this instance, be honestly credited with the cure of a case of cerebro-spinal meningitis, though it is not denied that such may have been the true condition. An unprejudiced investigator of our therapeutic law would be most assuredly convinced and perhaps disgusted with such an example of its efficacy. In reciting or reporting our cures we owe it to ourselves, to homeopathy and to the scientific world to demonstrate clearly just what we have cured and how we have cured it, if we wish to advance the cause of our school. Homeopathy, being a science, is positive, and this fact should scientifically be shown. Some years ago the writer cured and later reported a case of faucial diphtheria, in which two doses of *lac caninum* 30th did rapid and brilliant work. The presence of the Klebs-Löffler bacilli in this case was reported by the Board of Health of the city of New York, thus

proving beyond all doubt the correct diagnosis as well as the value of this remedy in diphtheria. The fact that the bacilli of this disease were present, that the disease itself was called, and properly so, diphtheria, has absolutely nothing to do with the choice of *lac caninum* as the simillimum and truly curative remedy, which was chosen on its peculiar and characteristic symptoms known to all of you, but had everything to do with the contention that homeopathy in general, and this homeopathic remedy in particular, can, and actually does cure patients suffering from this disease, whose pathology, bacteriology and symptomatology are matters of common knowledge to physicians of all schools. One such cure, proven beyond any and all doubt, goes further in demonstrating the wonderful powers of our therapeutic law, than a score of cases in which bald assertions are made unsupported by trustworthy and clinching evidence. The simple statement that a serious case of croupous pneumonia has been cured with this or that potency of a homeopathic remedy carries no weight whatever, unless accompanied by a recital of the physical signs as well as the symptomatology of the case submitted. An unprejudiced mind is then fully prepared to admit that a cure has been wrought of this disease; and this admission obtained, it is but a step to the further admission that homeopathy is wonderfully and infinitely superior to all other therapeutic systems in the working of its therapeutic law.

If we as a school, and especially the Hahnemannian element, to which pure homeopathic practice is of the highest importance, wish to retain, I might almost say, obtain, a firm foothold in the advancing world of science; if furthermore, we wish to add to our numbers men of the highest training and intelligence; if we wish to demonstrate to a long-suffering, sceptical yet investigating world, our superiority as physicians, then indeed it most certainly devolves upon us to accept and make use of every measure, every discovery, every instrument and all scientific means calculated to aid in the classification and correct diagnosis of disease. Then, and then only, can homeopathy hope to displace and supersede the old-school methods of to-day, which pass for rational medicine.

## Current Comment.

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David Hardie, M. D.:

I will describe the methods of treatment, which I have found most useful in dealing with **occipito-posterior presentations**.

Rotation by external manipulation would be an ideal treatment if the diagnosis could be made with certainty at the beginning of labor before the membranes had ruptured, but these conditions will not often be met with in practice. When the head has entered the brim, the membranes being entire, the only treatment is the postural treatment, the patient being directed to lie on her right or left side, according as the occiput is to the right or to the left.

The time of active interference comes, if at all, when the labor has well advanced into the second stage. At this period pressure upon the sinciput may be made in order to encourage flexion and cause the occiput to occupy a lower plane in the pelvis. The pressure is made with one or two fingers, and is begun before a pain (when the position of the head can be more easily altered) and continued throughout the pain, in order to prevent the head slipping back into its original position. This method often succeeds after a short time, but unless it is definitely useful, it should not be persisted in for more than half an hour. Where the measures described have failed, I strongly recommend rotation by hand.

The process is somewhat different, according as the head is only fairly advanced or is bearing on the perineum.

(a) When labor is only fairly advanced and progress is distinctly retarded. The patient is anesthetized and placed on her left side. In the case of a right occipito-posterior presentation the right hand with its back looking upwards is introduced into the vagina, the fingers are passed along the upper surface of the head nearer the sinciput than the occiput and the thumb placed over the lower temple; the head is thus gripped and is flexed and rotated so as to occupy the left oblique diameter with the occiput in front.

Forceps are now applied, the lower blade being introduced

while the right hand is still in position. There is no danger of injury to the child from the rotation of the head, which is altogether only through three-eighths of a circle, and in practice it is found that the body rotates with the head.

In the case of a left occipito-posterior presentation either the right or left hand may be employed. If the right hand is used, it grips chiefly the sinciput and sweeps round the arch of the pubes, from left to right of the patient, the upper blade of the forceps being the first to be applied; if the left hand is used, it grips the occiput and sweeps round in front of the perineum from right to left of the patient, the lower blade being the first to be applied.

(b) When the head is on the perineum. The process is essentially the same, but it is not in this case necessary to pass the whole hand into the vagina, and flexion may be aided by pressure on the sinciput with the left hand. The author has employed the treatment above described in cases of occipito-posterior presentation for some years, and finds that no other treatment can compare with it in efficiency and safety.



F. A. Butler, M. D.:

It has been my practice during the past fifteen years, when called to a case of real or suspected *eclampsia*, to at once put the patient into a hot bath, temperature 98 degrees, towels wrung out of cold water and wrapped around the head to interdict the severe headache liable to supervene. Temperature of bath run up to 112 by adding hot water, temperature of room 100. There is no estimating the amount of perspiration this produces. The patient ordinarily endures this about twenty or thirty minutes, then put to bed wrapped in woolen blankets, everything becomes literally saturated with perspiration. If a portable bathtub is not at command, the hot pack with the suitable temperature of the room, or a hot vapor or steam bath may be used. Some form of bath can always be improvised, and in all cases where the convulsions continue this bath treatment should be used once in every four hours. Large amounts of fluid are drained away from the woman's blood vessels. The loss of fluid can be replaced by normal salt solution given midway between the sweats. With this treatment copious purging is accomplished if possible.

Ralph Waldo, M. D.:

Since April, 1906, I have operated, from below, on twenty-two cases of complete *procidentia-uteri* without mortality. These patients varied in age from thirty to seventy years, and many of them have been in a very weak condition. The method of procedure has not been the same in each instance, being varied to suit the particular indications present. Wherever there has been a laceration of the cervix, marked hypertrophy, or a cystic degeneration of the same, an amputation has been performed.

With vulsellum forceps attached to the cervix the uterus is drawn out of the patient's body as far as it will come. A transverse incision is made through the entire thickness of the mucosa, across the anterior wall of the vagina, just below where the bladder extends down on the anterior wall of the uterus. A longitudinal incision, going through the entire thickness of the vagina, is made from the middle of the first incision to within from one-half to one inch of the meatus urinarius. The vagina is separated from the bladder and the bladder is pushed up the entire extent of the incision, exposing the peritoneum, through which a longitudinal incision is made, a broad retractor introduced into the peritoneal cavity, the uterus sharply anteverted, and the fundus entirely withdrawn out of this incision into the vagina, thus exposing the tubes and ovaries as completely as can possibly be done by any abdominal incision.

This method was first suggested to me by von Duhrssen, of Berlin. In case either the tubes or the ovaries are found diseased, the appropriate operation is performed upon them. The fundus of the uterus is pushed back into the abdominal cavity, the bladder being pushed up above on top of the uterus. The uterus is attached to the incision in the anterior vaginal wall with silkworm-gut sutures, producing vaginal fixation of the uterus.

If the patient is at the child-bearing age, the peritoneum is first closed with catgut so that the uterus is held against the peritoneal structure and not in the deep tissues of the vagina. In that way a peritoneal adhesion is formed which allows the uterus to develop in case of pregnancy, without giving rise to disagreeable symptoms.

If there is a cystocele—and there usually is a large one—a

wedge-shaped piece is taken out of the anterior wall of the vagina by simply cutting off from each side of the above-named longitudinal incision. The uterus is held forward and the wound in the vagina is closed by the same interrupted silk-worm-gut stitches.

If there is laceration of the perineum and rectocele—and you seldom have procidentia without both—an extensive colpoperineorrhaphy is performed. The method followed here is the single stitch colpoperineorrhaphy devised by myself, which perineal operation is efficient in this class of cases and is very rapid of performance, it seldom taking more than ten minutes, and frequently not over five, which is decidedly an object where so much operating has been performed at one sitting. This operation may be described as follows :

Take three bullet forceps or tenacula, and with the first grasp the mucous membrane of the vagina a little above the most prominent part of the rectocele, but at a point which you can easily draw down to the integument in the median line posteriorly. If the rectocele is large be sure not to go nearer than three inches from the attachment of the vagina to the posterior wall of the cervix. This can be easily measured with the index finger. With the second pair of forceps grasp the mucosa at its junction with the integument at a point abreast of the last caruncle, or a cicatrix that you will find marking the point from which the rupture has extended. Place the third forceps at a corresponding point on the opposite side. The handle of the upper forceps passes over the clitoris, and slight traction is made in the upward direction. Slight traction is also made from the median line on each of the lateral forceps.

The left index is introduced into the rectum and kept there until the operation is completed. With a pair of long, blunt-pointed uterine scissors curved on the flat, cut a small opening through the mucous membrane at its junction with the integument in the median line posteriorly. Turn the scissors in such manner that their concavity is towards the vagina so as to be sure not to wound the rectum, especially as you reach the upper portion of the surface to be denuded. Gradually push the scissors first to the right, every little while opening the blades and partially withdrawing them, closing and again advancing until the forceps are reached. Proceed the same to the left and then

up the median line, opening the scissors wider and wider until the entire surface is separated from the underlying tissues and still there is only a small opening where the scissors entered. In separating the mucosa be sure to extend well up into the angles at each side of the vagina. If there are old cicatrices, occasionally there are a few points that will have to be divided.

Remove the scissors and divide the mucous membrane at its line of attachment to the integument between the two lower forceps. Then between the forceps at your right and those attached in the vagina, not running in a straight line but curving in with the convexity to your right. The mucosa should not be divided as far to the right as it has been separated from the underlying tissues, but should be allowed to project about a quarter of an inch. The flap which remains is attached to the left along the line between the forceps to the left and those in the vagina. The flap is now removed, leaving a divided surface on the left side, similar to the one on the right.

A piece of large-sized catgut, not chromicized, about two feet long is threaded in a full-curved Hagedorn needle, three inches long. It is introduced into the integument half an inch from the denuded surface, and about an eighth of an inch above the forceps at your right, and is passed so as to include as much muscle as possible, keeping outside of the denuded area, coming out just above the forceps in the vagina. The needle again enters the mucosa at about an eighth of an inch from its exit, above the forceps in the vagina, and passes down, remaining buried in the tissues and coming out on the integument, half an inch from the denuded surface at a point midway between the posterior median line and the forceps to your left. Re-enter at a corresponding point to your right and pass up, keeping the needle buried to a point just above the forceps in the vagina and come out. Again enter, but not at exactly the same point, and come down to a point on the integument half an inch from the denuded surface, and about one-eighth of an inch above the forceps at your left.

The forceps and clamps are now removed, the suture drawn up, not too tight, and the wound will be closed.

A noteworthy feature of this operation is the fact that immediately following the operation where a marked cystocele existed there is a concavity and not a convexity of the anterior



vaginal wall. It is the only method in my experience that has cured cystocele with any degree of certainty. It also holds the uterus forward, curing the retroversion, and the rectocele is cured by the colpoperineorrhaphy. If the rectocele, cystocele and the retroversion are cured your patient will not have complete procidentia.

These patients look and feel about as a patient would after an ordinary amputation of the cervix and a perineorrhaphy. Most of the pain complained of is in and about the perineum.

There is no shock similar to that which comes after opening the abdominal cavity from above.

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Henry D. Foy, M. D.:

In the management of labor in **minor degrees of pelvic contraction** the length of pelvic diameters alone is not all-important; the size of the infant's head alone is not all-important. It is the relative disproportion between the head and the pelvis. Can this head mold and pass through this pelvis is the question to decide. The answer must be sought by the result of palpation. If the head be not engaged, can it be made to do so by pressure in the line of axis of the superior strait?

In minor degrees of pelvic contraction, discovered in the thirty-second week of pregnancy, modern obstetric practice points out three lines of treatment: First, the induction of premature labor. Second, elective Cæsarean section. Third, delay until labor has demonstrated the resources of Nature; then, (a) spontaneous delivery, (b) version, (c) axis traction forceps, (d) Cæsarean section, (e) symphysiotomy or pubiotomy, (f) craniotomy.

First, as to the induction of premature labor, we must recognize that there is a slight increase of danger to the mother and a very material risk to the infant by this method. The earlier interference is required, the greater risk to the infant; therefore, the indications for inducing labor are not justified before the completion of the thirty-sixth week of pregnancy, unless the mother had previously given birth to very big babies. Beginning at the thirty-second week, the case should be tested weekly to see that the head can be pressed down into the inlet. If it can be carried on in this way to the thirty-sixth or thirty-seventh week, labor may be induced. If engagement cannot

be made successful before that time it is not, as a rule, a proper case for the induction of labor.

Whether labor has been induced or is spontaneous, the case should be conducted along such lines that the patient will be in a favorable condition for Cæsarean section, should it prove advisable. Few examinations should be made, and these with the most rigid aseptic precautions. In case molding and engagement have occurred, the conditions give promise of a successful forceps delivery, the woman should be placed in the Walcher position and the instruments employed. If failure results, and the efforts at artificial delivery have not been protracted, and if the woman be in good condition, abdominal section may still be advisable. If, on the other hand, the woman should show signs of exhaustion, and if the efforts at forceps delivery have been prolonged, the course of action must be guided by the condition of the infant. If its life has been seriously jeopardized, or if destroyed, craniotomy would be indicated. If the heart sounds of the infant be good and there is hope of saving it, a symphysiotomy or pubiotomy would be called for.

When the disproportion between the diameters of the fetal head and the mother's pelvis is decided, and the head cannot be forced into the inlet by pressure under chloroform, a chance of a successful delivery by the natural passages is so small that Cæsarean section should be performed at a period shortly anticipating full term. The best results of the operation are obtained in these cases. If the os be patulous, no trouble will be met with from deficient drainage; if not, it may be dilated from above downward and a gauze drain inserted.

To delay until labor has demonstrated the resources of nature is the course to be pursued when the disproportion is not great, and there is good ground to hope for delivery by the natural passages.

(a) In the most favorable cases spontaneous delivery will take place. In minor degrees of pelvic contraction it has occurred in two-thirds of the cases. Molding, engagement, and descent of the head with good labor pains hold out promise of success.

(b and c) If failure results, version and axis-traction are held in reserve. Interference by either of these methods

should not be attempted unless there is every reason to expect a successful issue. Failure jeopardizes the chances of a subsequent abdominal section. In deciding between version and high forceps the choice will be guided by the experience of the individual operator. Version is contraindicated in the justo-minor pelvis as a rule. Some obstetricians perform version if the head be movable above the inlet, and high forceps operation if engaged. Personally, I believe it is obsolete practice to perform version or high forceps in any case where a test of labor pains fails to engage the head and if it cannot be forced through the brim with the patient under chloroform. This statement will be challenged by some obstetricians whose opinions are colored by the teachings of the Dublin and Edinburgh schools.

(d) The indications for delivery by Cæsarean section should cover cases of minor degrees of pelvic contraction where a few hours of labor pains demonstrate the inability of Nature to mold and engage the head. This indication should be extended to embrace those border line cases in which the conjugata vera is even as much or more than 8.5 cm. for the justo-minor, and 9 cm. for the simple contracted pelvis. Inability to force the head through the inlet under chloroform should be recognized as a justification for the operation, regardless of the degree of contraction.

(e) The indications for symphysiotomy or pubiotomy. The objections to these methods of delivery are the tedious and painful after-treatment and retarded convalescence. Complications met with afterwards are tearing of the anterior vaginal wall, edema or hematoma of the vulva, foul-smelling discharges, fever and septic phlebitis. Symphysiotomy and pubiotomy will, however, remain useful expedients when one is forced to resort to one or the other in preference to craniotomy upon a living child. When the woman has been exhausted by prolonged labor, by manipulations, by the use of forceps, and when the parts are contused and lacerated, and the woman is probably infected, nothing else remains to be done.

An indication for selecting symphysiotomy or pubiotomy may also be recognized when the facilities are not at hand for performing Cæsarean section.

(f) Craniotomy. The indications recognized for perform-

ing craniotomy are after prolonged labour, or failure of version or forceps, and the infant is dead or dying. The diminution of the true conjugate must not be below the limits of an absolute indication for Cæsarean section.

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C. P. Noble, M. D.:

I have for several years been convinced of the advisability of early operation in cases of **fibroid tumor of the uterus**. In 1901 I read a paper on the subject before the Gynecological Society, and from that time different operators have published papers, each containing a study of a consecutive series of fibroid tumors treated by operation. As a result I am now able to tabulate the degenerations and complications which have been found in 2,274 cases of fibromyoma, each case being one of a consecutive series of not less than 100 cases.

Complications and degenerations are divided into conditions relative (a) to the tumor and uterus, (b) to the uterus, (c) to the ovary, (d) to the uterine ligaments, (e) to the Fallopian tubes, (f) to the pelvis outside the tumor, uterus, or its appendages, (g) to pressure from the tumor, (h) to complications outside the pelvis. Complications or degenerations occurred in 1,550 of the cases, that is, in 68 per cent., and this number is under rather than over the correct figure, because in three of the lists the cases operated upon by the vaginal route, which are especially cases in which necrosis has occurred, were omitted, on the ground that in these cases the necessity for operation was not in doubt. The number of cases in which conditions existed relative to the tumor and the uterus which must have been fatal without operation was 275, or 12 per cent. of the 2,274 cases. These conditions were: Carcinoma of the corpus uteri, epitheliomatous infiltration of a fibroid tumor arising from adeno-carcinoma of the corpus uteri by metaplasia, carcinoma of the cervix uteri, sarcoma, chorion-epithelioma, necrosis of tumor, cystic degeneration, twisted pedicle of pedunculated tumor. The corresponding number of cases in the 337 cases which have occurred in my practice is 48, or 14 per cent., and in his last 100 cases there have been 15. In addition to these cases which must have ended fatally, there were also in 11 per cent. of the whole series, and in 15 per cent. of cases complications—or, if the term be preferred,

associated conditions—outside of the tumor and the uterus which would have been fatal without operation.

Examination of the cases in which cancer has occurred in association with fibromyomata brings out a causal connection between the conditions; because whereas in cases of uterine cancer without fibroids the incidence of cancer of the body of the uterus is to that of cancer of the cervix in a proportion of 1 to 10 only, in the series of cases under consideration there were 43 cases of cancer of the body of the uterus as compared with 16 of the cervix, and in my own series there were 9 to 5. I have given special consideration to other complications found, such as sarcoma, thrombosis, embolism, and phlebitis, the latter three conditions being encountered more frequently in connection with fibroid tumors than with any other conditions, fibrocysts of the uterus, anemia, and pressure upon the urinary organs.

I find that the danger from fibromyomata increases instead of diminishes with the menopause, and I am inclined to believe from my experience that cancer of the body of the uterus is as apt to occur in the small, partly atrophied tumors found after the menopause as in tumors of larger size. The relative dangers of the expectant and the operative forms of treatment cannot be estimated without a knowledge of the mortality from operation, and this mortality is at the present day 2.26 per cent.

In favor of early operation are the following points: (1) It saves years of invalidism or semi-invalidism. (2) It avoids the risks to life from the development of malignant growths of the uterus. (3) It avoids the risks to life from degeneration in the tumor, from such accidents as twisted pedicle, from pressure on the urinary organs, etc., and from the greater liability to intercurrent diseases arising from lowered vitality due to anemia or malnutrition. 4( ) It greatly lessens the risk of operation. The author's opinion is that "the principle of early operation which is now generally accepted with reference to ovarian tumors is equally applicable to the treatment of fibroid tumors."

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Mary Strong, M. D.:

It seems to be unfortunate that such varied conditions of placental attachment, differing in danger from practically nil

to extreme, both for mother and child, should all be classed as **placenta praevia**. Moreover, works on obstetrics vary in their classification, giving from four down to two varieties. Williams, for instance, thinks that only partial and central cases should be considered as true placenta praevia, thinking that the lateral or marginal forms are really only the "vicious insertion."

On three points we ought all to be in agreement.

(1) Central placenta praevia is an extremely dangerous condition, even with the best of treatment, giving a considerable mortality of mothers and a very high one of infants.

(2) Partial forms, under good management, should give an extremely low death rate of mothers and a moderate one of infants.

(3) Marginal cases, properly treated, should give only a very slight increase of mortality over ordinary obstetric cases.

Even with a careful examination marginal implantation can practically never be diagnosed before labor begins. Unless labor is rapid there is usually some bleeding before rupture of the membranes, and a very slow first stage is common, owing probably to the low placenta hindering dilatation. Probably in most labor cases showing these two symptoms, a careful examination would reveal the edge of the placenta.

Partial and central cases are said by many authors to have as an early symptom hemorrhage, coming on suddenly, apparently without cause, painless, and more or less profuse. While this has been true in most of my cases, it has not been so in all, one complete and extensive central case never losing a drop of blood till the day of her confinement at full term. Of course, in these cases a diagnosis can usually be readily made by vaginal examination, as I know nothing else giving the sensation to the examining finger that placenta does. It feels to me like a tough sponge filled with blood.

**Partial and Central Cases**—If premonitory hemorrhages occur, if the child is viable, and cervix dilatable, we had better dilate manually at once. In a partial case, rupture the membranes and do podalic version, with an assistant doing expression and keeping the head well flexed while the child is extracted. In a multipara, the child should have a pretty fair chance if this can be done.

If the os is tough or rigid, a carefully done antiseptic packing, inserted tightly as possible, will check the bleeding and probably cause sufficient relaxation in twenty-four hours to allow of manual dilatation. It seems to me the better way to dilate in a central case, peel off placenta to one side, then rupture the membranes and proceed as in a partial case. Tearing through the placenta would seem to cause unnecessary bleeding and also markedly increase the difficulty of completely removing it. But in a central case the child's chances are very poor, anyway. The placenta, partly detached, is in the way of either forceps delivery or of extraction after podalic version. Of course, one can bring down a leg and leave nature to finish the case, with practically certain death to the baby, but a very fair chance for the mother.

It would seem, from articles in the later medical journals and books at my command, that Cæsarean section is an operation to be avoided in placenta prævia. The low insertion, the necessary bruising of the placental site by the rubber ligature thrown about the uterus to prevent hemorrhage, and the difficulty of thorough drainage of the uterus through the small os, all render the case specially liable to infection.

I do not do major surgery, being in a city where good surgeons abound, but I have wondered if, in such a case, the Porro operation might not give the patient a better chance than an ordinary Cæsarean. But in an ordinary case of placenta prævia, unless there was a positive indication, as in this case, I should certainly not advise the operation.

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Lord Lister, F.R.S. :

Catgut used for ligatures or sutures in surgery should fulfill various conditions. It should, after soaking in water or blood serum, be strong enough to bear any strain to which it may be subjected, and should hold perfectly when tied in a reef knot. It must not be so rigid as it lies among the tissues as to have any chance of working its way out by mechanical irritation. Nor should it be too quickly absorbed, but should be consumed so slowly by the cells of the new tissue that grows at its expense that, in case of the ligature of an arterial trunk in its continuity, it may serve sufficiently long as a support for the substitute living thread in its embryonic condition. At the same

time, it is essential that the catgut be securely aseptic when applied.

Of the various substances which I have tried for the **preparation of catgut**, that which has, with one exception, most nearly approached the ideal is sulphate of chromium. The one exception is secure asepsis of the gut substance, this salt being utterly untrustworthy as a germicide; this defect is easily remedied by the addition of a little corrosive sublimate, the powerful germicidal action of which is not prevented by the chromium sulphate.

I was at one time discouraged from using chromium sulphate by finding that it varied extremely in quality according to the manufacturer who supplied it. Thus one sample got from a well known firm proved quite insoluble in water. But a perfectly satisfactory result was obtained by adding solution of sulphurous acid (P.B.) to solution of chromic acid until the rich orange-brown of the latter has passed through grass-green to the pure blue of chromium sulphate. When this has occurred no more should be added, since free sulphurous acid produces a precipitate with bichloride of mercury, and would thus, in proportion to its amount, withdraw the germicide from solution when the two liquids are mixed. In order to make quite sure that no free sulphurous acid is present, it is well to keep a few drops of the chromic acid liquid in reserve, and add them when the blue color has appeared, so as to restore the green tint.

Another point that requires attention arises from the fact that the P.B. solution of sulphurous acid, as obtained from the chemist, is generally somewhat deficient in the amount of  $\text{SO}_2$ , in consequence of loss by volatilization. Hence it is necessary to use a smaller quantity of water for dissolving the chromic acid than would otherwise be used; and when the proper tint has been got, add enough distilled water to bring the liquid to the requisite measure.

The following are the directions for preparing what is known as chromic (or sometimes sulpho-chromic) catgut in accordance with the above conditions:

"The preparing liquid must be twenty times the weight of the catgut. So for 40 grains of catgut 800 grains of preparing liquid are required. It is made by mixing two liquids



—namely, the chromium sulphate liquid and the sublimate liquid.

“The sublimate liquid is:

Corrosive sublimate . . . . .	2 grains
Distilled water . . . . .	320 ”

“The sublimate may be dissolved by heat, but the solution must be used cold.

“The chromium sulphate liquid is prepared thus:

Chromic acid . . . . .	4 grains
Distilled water . . . . .	240 ”

“Add to this as much sulphurous acid (P.B.) solution as gives a green color. If more is added the color becomes blue, which shows that rather too much sulphurous acid has been used. It is well to reserve a few drops of the chromic acid solution, to be added after the blue color has just appeared and restore it to green. Then enough distilled water is added to bring the green liquid up to 480 grains. Then add the sublimate liquid.”

The catgut is kept twenty-four hours in the preparing liquid, and is then dried on the stretch.

N.B.—It is essential that the  $\text{CrO}^3$  and  $\text{SO}^2$  solutions be mixed before the  $\text{HgOI}^1$  solution is added.

Catgut prepared in this way remains actively antiseptic in its substance for an indefinite period.

But while the substance of the catgut is thus not only aseptic but powerfully antiseptic, its dry surface is liable to contamination by contact with septic material, and it is essential that, before being used, it be washed with some trustworthy germicidal liquid.

My practice has been to put the catgut, like the instruments, in 1 to 20 solution of carbolic acid about a quarter of an hour before the operation is begun. Any of the catgut that remains unused upon the reel may be afterwards kept in a similar solution for any length of time without disadvantage.

The essential precaution of purifying the surface of the catgut is, I fear, sometimes overlooked, the result being occasional suppuration attributed to defect in the ligature, while it is really the fault of the surgeon.

♦ ♦

Emory Lanphear, M. D.:

**Shock** immediately following operation depends upon

(1) **Excessive hemorrhage:** (2) too much chloroform or ether; (3) injury to important nerves; (4) fear of death.

Theoretically there is a difference between "collapse" due to loss of blood and "shock" dependent upon some tremendous depressing influence upon the nerve-centers; practically there is none.

The first variety is characterized by loss of pulse, by gasping, paleness and clamminess of the skin.

The second form is recognized by disturbance in respiration, by irregular or imperceptible pulse, by coldness of extremities and by widely dilated pupil.

The third is distinguished by a peculiar lividity of the face, by a pinched expression, by quickened and shallow respiration and by the peculiar restlessness which so often immediately precedes death in one who is partially conscious.

In the first form, especially, and in the second sometimes, the evidences of shock appear without warning. Everything seems to be progressing well during operation, when suddenly an assistant exclaims: "The patient is not doing well"—and operation has to be brought to a hurried end in order to prevent death upon the table. In other instances everything may have gone well at operation, with considerable anxiety as to shock because of either excessive loss of blood or prolonged and serious operative work, and a little while after the patient has been put in bed the pulse becomes thready, the respiration shallow and irregular and the extremities cold—a condition extremely common when the anesthetist has been too free with the chloroform—and, in less degree, with ether. With the adoption of the hyoscine-morphine-cactin form of surgical anesthesia shock is practically eliminated, save that form dependent upon excessive blood-loss; even the severance of huge nerve-trunks does not change the pulse or respiration as it does under the older forms of anesthesia.

The treatment of the first kind of shock differs in marked degree from that appropriate to the others. Here the use of hypodermoclysis is to be commended: the injection of a liter (quart) of salt-water beneath the skin soon restores the amount of blood-serum to something near the normal. If this is done while the operation is still being performed great care must be exercised not to soil the field of work nor to dirty the hands of the surgeon which may be close by.

As soon as it is seen that shock is appearing the patient's head must be lowered so that profound anemia of the brain may not cause death. If the shock occurs during operation the Trendelenberg position must be adopted, though not to an exaggerated degree; if after the patient has been returned to bed, the foot of the bed should be put on a chair so that for several hours gravity helps to counteract shock; and no pillow should be allowed beneath the head. In extreme cases both legs may be bandaged from the toes upward to the hips to force most of the blood into the abdomen, chest and head; and the arms may be held up by the nurses. No doubt many lives might be saved by resorting to these simple measures if surgeons would but take the trouble to give the necessary instructions and then see that they are carried out.

As soon as possible artificial heat must be applied—hot-water bags or bottles being placed around the body and legs of the patient; and blankets applied so as to retain the heat.

Here the hypodermic use of strychnine can do no good—and it may do harm. Glonoin in dose of one milligram (or 1-100 grain tablet) either under the tongue, whence it is almost instantly absorbed, or hypodermically, will do more good than anything else medicinally. After a few minutes digitalin may be injected and still later, if the pulse flags, ten minims of camphorated oil may be injected.

If the shock continues for some hours, hypodermoclysis may be repeated, using the buttocks instead of the mammary region, and rectal injection of hot salt-solution may be given also; or better: hot water with or without a little beef extract; and in some cases hot coffee.

As the shock disappears the bandages may be removed from the extremities; later the bed may be lowered to the level; and finally a pillow may be allowed.

♦ ♦

F. S. Clark, M. D.:

About a year ago in a paper read before the Academy on **"Heart Disease as a Complication of Pregnancy and Labor,"** I made the following statement: "When confronted with the question of what advice to give to one, with heart disease, who wishes to have children, we must not base our decision alone on whether we think she will safely pass through the dangers incident to child-birth, of which we cannot assure

her, but also on the probable future condition of her heart and health as a result of the extra strain. If we do this we will advise against pregnancy in all such cases."

This opinion was expressed after reporting several cases of labor complicated with heart disease. One of these was a case of abortion in a patient to whom I gave such advice because I considered her heart should not be made to stand the strain of pregnancy and labor, but about two and a half years later I was informed that she was pregnant and expected to be confined about January 1, 1908. This information was a cause of much anxiety on my part, which increased with the advance of pregnancy, and that it was well founded the future history of the case will show.

The patient's general condition for the past two years was fair, except for an occasional spell of dyspnea often accompanied with a digestive disturbance, though at no time of a serious nature. The apex of the heart was just outside of the nipple line, where it had been since I first saw her, and there was a mitral regurgitation. No evidence was ever found of disease of the kidneys. The last thorough examination of the urine was made 24 hours before the onset of the edema and no casts or albumin were found. Another specimen taken after the onset of the attack showed no albumin.

Early in the fourth month of her pregnancy the patient was started on small doses of strophanthus. This was gradually increased as the strain on the heart became greater. I followed the method of Jardine of Edinburgh in using strophanthus, for he has obtained such good results with it in a large number of cases. The results in this case appeared very good, for the patient was doing nicely till the end of the seventh month. During this month she felt exceptionally well in spite of the fact that she was becoming very large. The abdomen was too tense to make any accurate diagnosis of the contents of the uterus. There did not seem to be any reason to doubt the length of the pregnancy.

On Nov. 3d last, she had some shortness of breath, but not more than she had often had, and a little irritating cough.

Late the following evening I was asked to see her because the dyspnea had increased. The minute I stepped into the room I suspected pulmonary edema. The patient was sitting up in bed somewhat cyanotic, and the breathing was rather

labored. There were a few fine râles at the base of the lungs. The apex beat was still just outside the nipple line. The amount of urine had been somewhat less than usual for the past 24 hours and there had been some swelling of the feet for the same period. Active treatment was at once started, and, as a result of hot packs, cathartics, digitalis and strychnin, the patient was so comfortable in about four hours time I left her but not without first telling her husband that it might be necessary to empty the uterus on short notice and that it certainly would be if there were a return of the symptoms. It was the earnest wish of all to have the pregnancy continue at least two or three weeks more if possible in hope of saving the child. I saw the patient again about four hours later, that is eight o'clock the morning of November 5, and found she had been quite comfortable though at times she had had slight dyspnea. A tank of oxygen was sent to the house during the forenoon in case of emergency.

At noon the patient was feeling much better and slept a little. At three in the afternoon she suddenly became very much worse, and on reaching the house I found her condition most critical. I immediately ruptured the membranes in hope of reducing the pressure enough to give relief. A large amount of water escaped, the child settling firmly against the os. The cervix was so rigid that one finger could not be pushed into it. In spite of the constant use of oxygen, started at the beginning of the attack, the patient was intensely cyanotic and her breathing was most difficult.

Coarse râles were heard all over both lungs and her condition was desperate. Bleeding might relieve the symptoms but only temporarily. Emptying the uterus was the only hope. To attempt to dilate the os manually would only result in seeing the patient die during the attempt and vaginal Cæsarean section was the only choice, and preparations were hurriedly made for the operation. When the patient was put on the table I did not expect to see her leave it alive. So deeply cyanotic was she that little chloroform was needed, not over half a dram being used altogether. The uterus was opened by an incision through the anterior lip and lower uterine segment and posterior lip, forceps were applied and a 4 1-2 or 5 pound child delivered. Then was seen why the trouble had come so early in the pregnancy. There was another child

and, as with the first, there was also an excessive amount of amniotic fluid. This child was also easily delivered. Both were stillborn from the same cause that was so rapidly killing the mother. The placenta was delivered and the patient allowed to bleed quite freely, after which the uterus was packed and, as the cyanosis was rapidly clearing up, sutures were put in the incisions. Not over five or six minutes were occupied in emptying the uterus and 20 or 30 more in putting in the sutures. At one time the pulse became very weak. This may have been due to the rapid delivery, which is not wise as a rule in heart disease, but the urgency of the case seemed to justify such a chance. The patient was put to bed and soon became conscious. The cyanosis had almost entirely disappeared and the dyspnea was markedly less. The urgency of the case was apparently over, but the danger that the heart could not regain its strength still existed, for the apex beat was in the midaxillary line. For four hours the progress of the case gave hope of a possible recovery, when, without warning, the heart stopped beating.

There are a few points I wish to emphasize:

The heart which was judged unable to stand the strain of a pregnancy was forced to endure a double burden and in addition a double hydramnios. The strain in the average case of pregnancy is not as great at term as it was in this case at the end of seven months.

Considering the absence of kidney complications, the onset of pulmonary edema was not expected when the heart had been acting so well.

The value of vaginal Cæsarean section for rapidly emptying the uterus was unquestionably demonstrated. The patient, though in extremis, did not receive any shock from the operation.

I was asked whether if the uterus had been emptied the first day, the patient might not have been saved. No one can say. If when she was improving it had been done and she and her babies had been lost the question would just as reasonably be asked whether it would not have been better to wait. However, the great question suggested by this case is, what shall be our attitude in pregnancy if pulmonary edema develops either as the result of a heart or kidney lesion, even if it does respond to our treatment? None will dispute the seriousness of the

complication in any condition, whether pregnant or non-pregnant. It would be hard for me in a similar case to refrain from immediately emptying the uterus. Would it be too radical?

To refer again to the paper I quoted at the beginning, I would say, that we, as physicians, are not justified in assuring any patient who has an organic heart lesion that she can safely go through the strain of childbirth.

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W. H. Maling, M. D.:

The occurrence of periodic **uterine hemorrhage** long after the menopause, and in association with the development of cystic ovarian disease, seems to be sufficiently rare to make the following case of interest:

The patient, a married woman aged 57, with four children, consulted me in November, 1905, on account of a hemorrhage per vaginam, which she attributed to a fall ten days previously. She said she had been a very healthy woman, and had ceased to menstruate thirteen years previously. The onset of the menopause was reached by a gradual cessation of the flow, and accompanied by none of the usual symptoms.

On examination vaginally, nothing abnormal was found. Palpation was difficult, owing to adipose deposit, and at first nothing was discovered.

After the lapse of some months, however, it was possible to make out a sense of fullness and resistance in the left iliac region, which gradually became more and more evident. Meanwhile the uterine hemorrhage recurred at regular intervals of three weeks, was never excessive in amount, and followed the usual course of menstrual flux; the quantity gradually increased for the first two or three days, and then diminished daily until its cessation at the end of a week. The patient declined any operative interference, on the ground that she felt so well that she could not think that there was "anything the matter with her," and I lost sight of her for about six months. On her again consulting me in November, 1906, there was a large semi-elastic swelling to be felt filling up the left iliac region, reaching well above the umbilicus, and also extending across the middle line to the right. She told me that the "discharge" had continued to exhibit its previous periodic characteristic.

As the patient was by this time beginning to suffer from pressure symptoms, she consented to operation, and this was performed almost exactly a year after I first saw her. A large multilocular cyst of the left ovary was removed, the right ovary being also taken away, as it showed commencing cystic disease. The uterus was examined and appeared quite healthy. The patient made an uninterrupted recovery.

The points of interest seem to be (1) that a uterine hemorrhage so closely resembling an ordinary menstrual flux occurred so long after the menopause; (2) that its onset was apparently simultaneous with the commencement of the cystic disease of the (left) ovary; and (3) that it continued to appear at regular intervals during the whole period of the growth of the ovarian disease. Both Lewers and Pozzi make some reference to post-climacteric hemorrhage in cases of ovarian tumor, but I have been unable to find any reference to a case exactly corresponding to the one I have described.

♦ ♦

Thomas Simpson, M. D.:

From a practice of forty years I will give my experience in **the treatment of diphtheria.**

There is a general agreement as to the stern necessity of hygienic precautions being rigidly observed: the removal of carpets, curtains, blinds, superfluous furniture, etc., from the sick chamber. The temperature should be about 68° F., and thorough ventilation, without draughts, should be secured, the air being kept moist by a steam atomizer, or a steam kettle. If possible none but nurse and parent and doctor should be admitted to the chamber. The precaution of wearing a linen overall may be observed by the physician, as well as by nurse and parent. The strictest quarantine should be employed against other members of the household, and vessels containing an odorless germicide should be placed in large flat vessels in the sick room and its approaches. Chlorinated lime, and formalin are valuable agents, and any linen removed from the room must be rinsed out in water containing corrosive sublimate. The attendants should often cleanse the hands and face with Loeffler's solution (in water). Among the local applications to the throat that are generally recommended, we may mention corrosive sublimate 1-1,000 with or without tar-



taric acid, 5 grammes to the litre. Carbolic acid 3 per cent. in alcoholic solution, 30 per cent. Loeffler's solution, i.e., menthol 10 grammes dissolved in toluol to 36 cc., absolute alcohol 60 cc. and liq. ferri sesquichlor. 4 cc.

But the most effectual local application I have found, by experience, to be that recommended by Dr. von Grauvogl, who used absolute alcohol as a spray to the throat in hundreds of Prussian soldiers, with striking and satisfactory results, the exudate disappearing more quickly than under any other agent. Alcohol also possesses the advantage of non-interference with the drug administered internally. Laryngeal complication (always a grave contingency) may be best arrested by a spray of bromine 1-10,000, or by one grain being inserted in a steam kettle, holding one quart, as an inhalation. Hot applications to the neck are very grateful, or light poultices of hot bran may suffice.

Diet must be strictly confined to peptonized milk and barley-water. Armour's elixir of peptone I have found invaluable.

Tepid sponging of the trunk twice a day under cover of a blanket, to avoid a chill, is comforting to the patient.

Therapeutic Hints.—Osler says "medicines given internally are of very little avail in the disease." There is still a widespread belief (in the profession) that forms of mercury (sic) "are beneficial." When the pharyngeal membrane is involved deeply, and swallowing is painful, nutrient enemata are needed and should be used. "The tincture of the perchloride of iron is also strongly recommended; we are still, however, without drugs which can directly counteract the tox-albumens of this disease, and we must rely on general measures of feeding and stimulants to support the strength!" It is refreshing to turn aside from this gloomy agnosticism to the resources which our system offers to every earnest seeker. Often the local affection is not apparently in proportion to the general disease; now the former, now the latter, is much more violent than one would expect, and apparently light cases prove fatal or are succeeded by severe or protracted sequelæ.

When the diphtheritic process reaches the larynx, croupous symptoms supervene; this form is properly designated "laryngitis diphtheritica," and is extremely intractable and grave. We may expect diphtheria to exist (though no exudate is observable) when a patient with an angina complains of pro-

found prostration and sickness. Even in dangerous cases, the fever may be slight and the odor from the breath is not always offensive.

Our bounden duty as physicians is to analyse strictly the objective symptoms, record the subjective sensations, the genetic differences and complications, and strictly individualize. In confirmation of the importance of adapting the remedial agent to the specific conditions, we were led to prescribe in one epidemic quite a dozen different drugs, which were indicated by distinctly differing manifestations. There is not one single remedy which has been extolled as specific which has not been by others condemned as inert. Grauvogl found that no agent so rapidly destroyed the exudate as alcohol; and the advantage it possesses of non-interference with the simillimum is a valuable point. It may be used with a camel-hair brush, or, better, on a swab of absorbent cotton held in a short forceps. It should be immediately destroyed after use.

*Mercurius cyanatus* in a high potency gave excellent results in 75 per cent. of our cases.

*Arum triphyllum* 3 aroused restorative action in thirteen instances, the peculiar indications, thin ichorous nasal discharge, "indurated submaxillary glands," "great fetor oris," "profound prostration," being manifest.

*Apis mel* is recommended in light cases ushered in with high fever, headache and pain in nape, and even in severe types, with great debility at onset, puffy eyelids, itching eruption, especially when it appears during scarlet fever. Pharyngeal and laryngeal irritation, dysphagia, prostration and depression, appearance of uvula, as if stung, rough voice, intolerance of touch of clothes to throat. Crawling sensation in arms, lower limbs paralyzed, essential as indications in diphtheritis.

*Arsen. alb.* (6) is indicated by the grayish-white exudate, adynamic fever, causing great restlessness and prostration. Alcoholic spray greatly accelerated the cures with this drug.

*Bromium* as an inhalant with steam seemed to arrest the descent into the larynx of the exudate, in threatening cases. In pseudo-membranous exudates 20 drops of bromine (1) in 1 oz. of glycerine applied to fauces, or a solution of bromine, one part in twelve parts of water, is excellent. Even when the exudate seems to begin in the larynx and travels upwards, bromine helps us. Seldom indicated in gangrenous cases.

Lachesis is demanded where its special indications point to its being pathognomonic, and so is lycopodium.

Muriatic and nitric acids are seldom indicated, but the latter cured a severe case (where the ichor from nose and the fetid breath did not yield to arum).

Phytolacca is suitable where a fetid emanation from drains seems responsible for the trouble. The tonsils and soft palate are covered with a greenish-colored false membrane and much swollen, with stiff neck; hands tremble. Pulse 120. Often a fine eruption appears on body. The lower potencies are best, and it is not wise to prescribe it in malignant cases.

Sulphur seems to overcome the gravest symptoms when a rapid pulse and flushes of heat exist, with much ulceration and even sloughing of pharynx, and the fact of its being a fungus-destroying agent and a splendid intercurrent remedy we must keep in mind.

But our list would indeed be incomplete if we failed to mention *crotalus hor.*, which has been exhaustively proved and so eloquently urged by Dr. Hayward. His record of clinical effects would encourage us to hope for relief in the most desperate cases where it is indicated.

♦ ♦

A. E. Mack, M. D.:

Fortunately **eclamptic convulsions** do not occur as a rule until the child is viable. More often they occur during labor and less frequently following labor. I am not in favor of producing an abortion before the child is viable simply because a patient has blurred vision, nausea and vomiting, insomnia, anorexia, constipation and albuminuria. I believe a patient can be tided over until such time as the child is viable, and then, if these conditions and symptoms are not relieved, a premature labor may be induced. If we see a patient in the first attack, give chloroform to cut short and gain time. I believe in no protracted use of chloroform in these cases, as it is likely to cause degeneration of the heart after patient has recovered from eclampsia. In an emergency, if the patient is robust, well nourished and full hard pulse, bleeding may be decidedly useful, subtracting from 12 to 16 ounces. On the other hand, if the patient is thin, pale and anemic, as is usually the case, bleeding it decidedly contraindicated.

## Book Reviews.

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**ATLAS AND TEXT-BOOK OF HUMAN ANATOMY.** By DR. JOHANNES SOBOTTA, Professor of Anatomy in the University of Wurzburg. Edited, with additions, by J. PLAYFAIR MCMURRICH, A.M., Ph.D., Professor of Anatomy in the University of Michigan. Complete in three volumes—Vols. II. and III. Philadelphia and New York: W. B. Saunders & Co. 1906 and 1907.

The final volumes of the complete work of this most valuable series are now at hand and are, to say the least, joy to the student of anatomy and a comfort to the specialist in any department of medicine or surgery. Those beautiful artistic plates with colors and correct relations must appeal to anyone who ever had difficulty with anatomy; to those to whom the subject was a pleasure the study of this work will be a great satisfaction. Experience has taught the author to depict the peripheral nerves and blood vessels as they appear in the dissected cadaver, the vessels and nerves in the same region. This arrangement has been largely followed, and the student in the dissecting room using the atlas can find the majority of the structures in a layer of dissecting upon a single page without being obliged to hunt through the book for various illustrations to complete the picture. Volume two is devoted to the viscera, including the Heart, while volume three contains the Vascular System, Nerves, and Sense Organs.

**SURGICAL DIAGNOSIS.** By DANIEL N. EISENDRATH, A.B., M.D., Adjunct Professor of Surgery in the Medical Department of the University of Illinois. Four hundred and eighty-two original illustrations, fifteen in colors. Philadelphia and New York: W. B. Saunders & Co. 1907.

The ease and freedom from danger attendant upon exploratory operations have perhaps lessened the zeal for making the exact diagnoses attempted some years ago. This is particularly true of abdominal conditions, and the readiness with which the surgeon proposes laparotomy is appalling to the patient and oftentimes a shock to the attending physician. Diagnosis is really the refinement of all of the arts of medicine and surgery, requiring knowledge, experience, a logical mind, besides such accomplishments, chiefly manual and ocular, which are trained to precision and reliability. An accomplished diagnostician develops in our opinion qualities even superior to the best technique of the surgeon. Eisendrath, recognizing the necessity of making a correct diagnosis before instituting treatment, writes

a very excellent and helpful treatise which approaches the subject from a clinical standpoint, grouping injuries and diseases in the manner in which the surgeon and physician considers them when he examines the patient. Thus in the chapter upon thorax, injuries of the bony walls, injuries of the thoracic viscera, acute and chronic inflammations of the thorax and its contents, tumors, etc., the author admits the arbitrary classification but it after all is the method of the bedside clinician. The four hundred and eighty-two illustrations are original and helpful and contribute much to the value of the work, which is to fill a very useful place in the library of the physician and a most helpful assistance to the clinical surgeon.

**AMERICAN PRACTICE OF SURGERY.** A complete system of the science and art of surgery, by representative surgeons of the United States and Canada. Edited by Jos. D. BRYANT, M.D., LL.D., and ALBERT H. BUCK, M.D. Complete in eight volumes—Vol. III. Profusely illustrated. New York: William Wood & Co. 1907.

The third volume of this comprehensive Practice of Surgery contains many interesting features. The section devoted to Poisoned Wounds, Bites and Stings of Animals and Insects by Major Chas. Field Mason, M.D. This subject is treated broadly as belonging to two groups, those in which the poison is chemical and the other in which it is microbic or bacterial in character. The article is profusely and well illustrated with reproductions of poisonous reptiles and insects. Fractures are ably discussed by Eve in a copiously illustrated article which contains the usual methods of treatment as well as the notable advances such as Blake's operation for fracture of the patella, and some very practical ideas about the uses of plaster of Paris. Thomas on Pseudarthrosis, a very welcome chapter as but little is usually said about this very important subject. It shows the various methods of treating the non-union of bones and gives some excellent X-ray reproductions showing the applicability of Parkhill's clamps to such conditions. The rest of the volume is devoted to diseases of the bones and joints by Roswell Park, Channing C. Simmons, Chas. F. Painter and others and includes inflammatory and non-inflammatory affections of bones, syphilis and tumors of the osseous system, also tubercular and non-tubercular affections of the joints. There is an absence of unnecessary padding in this volume, the work is creditable throughout and of an eminently practical nature, being free from the discursive tendency so often noticed in large works.

**A PRACTICAL TREATISE ON FRACTURES AND DISLOCATIONS.** By LEWIS A. STIMSON, M.D., LL.D., Professor of Surgery at Cornell University. Fifth Edition, revised and enlarged, with 352 illustrations and 52 plates in monotint. New York and Philadelphia: Lea Brothers & Co. 1907.

When a medical work has passed through five editions it means that such has been the indorsement of the profession that comment by the reviewer is superfluous. Stimson's "Fractures and Dislocations" has always had the reputation for containing the real and necessary facts pertaining to the subject, and when consulted the physician or surgeon found usually the knowledge he sought. The new edition differs only in that the notable increase in knowledge of details that have come through the X-ray have become a very prominent feature, particularly concerning fractures involving joints and small bones. As fractures and dislocations constitute a large part of the suits for malpractice against physicians, it is wise that they should avail themselves of such a work to avoid usual and serious errors in treating such conditions. We regard this work as unequaled in its scope and utility and as a practical exposition of the subject.

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## Translations.

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**Indirect Excitation of Typical Tenderness at McBurney's Point.**—Rovsing (*Zentralbl. für Chir.*) states that in cases of acute inflammation of the cecum and appendix firm pressure on the left inguinal region over the sigmoid flexure will invariably excite pain on the right side over McBurney's point. By this procedure the tension of the middle portion of the colon is increased, and the gaseous contents are driven into the cecum and the appendix. As the passage of the accumulated gas from the large into the small intestine is prevented or much impeded by the ileocecal valve, the walls of the cecum and appendix become over-distended and, if inflamed, respond to the stimulus by pain. The author tried this diagnostic method for the first time in 1904, when on the same day there came under his notice two cases which presented precisely similar symptoms, and in which on account of the very large and tense swelling in the cecal region in both patients, he refrained from applying direct pressure at McBurney's point. Pressure over the sigmoid flexure was at once followed by pain

over the appendix in the first case, but failed to do so in the second. In the former laparotomy revealed appendicular peritonitis, while in the latter the swelling was found to be due to a large retroperitoneal abscess, the colon and appendix being quite free from disease. The author has since used this test in over 100 cases, and reports that it has fully confirmed his anticipations of its being a delicate, safe, and valuable aid to diagnosis. It promises to prove useful in two ways. As a mean of differential diagnosis it will serve to distinguish acute and chronic appendicitis from other affections—renal lesions, ureteral calculus, ureteritis, salpingitis, for instance, which may in common with appendicular inflammation give rise to a painful swelling on the right side of the abdomen. The author holds that it is only in cases of disease of the cecum and appendix that pressure over the left iliac fossa can cause pain on the opposite side. In the second place direct palpation, which is sometimes dangerous and intolerable to the patient and often fails on account of muscular contraction, may be regarded as unnecessary in acute cases in which the typical pain at McBurney's point may be quickly and safely excited by the simple method of compressing the healthy sigmoid flexure.

**Post-operative Acetonuria.**—Longo (Rif. Med.) has examined the urine in 103 cases with a view to the presence of acetone after operation. He believes that a physiological acetonuria exists, and in his 103 cases 7 per cent. showed acetonuria before operation, although in other respects they might be considered normal individuals. Acetonuria was much more often seen after ether narcosis (19 out of 20 cases) than after chloroform (51 out of 57), and in each case it was most marked the nearer the examination was made after the operation. In the 7 cases operated upon under local anesthesia (cocaine) acetonuria followed the operation in every case. In 15 cases of traumatism or operation without anesthesia acetonuria was noticed in 7, and in 3 cases of simple chloroform narcosis without operation acetonuria followed every time. The test for acetone used by the author was that described by Lieben. Apparently post-operative acetonuria is an almost constant phenomenon, but temporary; the low diet after an operation seems to prolong it a little, but it does not appear to be due to fasting, although this condition and early years act as predisposing causes. The essential elements in post-operative acetonuria are the narcosis and the trauma. In the author's experience the post-operative course is not influenced by the presence of acetonuria, which he holds is due to a functional alteration of the central nervous system.

**Death of the Fetus.**—Lepage (La Clin.) reports the case of a woman who, having had two healthy children, developed during her third pregnancy albuminuria with constitutional disturbance, and gave birth to a dead fetus in the eighth month. Her previous pregnancies had been quite normal, and he suggests that the albuminuria may have been due to the bad hygienic conditions under which the patient lived. Another case reported aborted in the third month, the placenta showing that development had been arrested for some time. Should death occur during the first few weeks, the fetus will undergo dissolution; the embryo consists so largely of water that it dissolves in the amniotic fluid; if expulsion occurs a few days after death, some fetal remains may be found; but if some weeks later, the ovum will probably be quite clear. At the age of two to four months the fetus, should it succumb, is liable to mummification, the amniotic fluid is reabsorbed, and the fetus dries up. In the later months maceration may occur, accompanied by desquamation of the skin and discoloration of the liquor amnii; the final change is putrefaction, which can only occur when the dead fetus is in contact with the air, and which is a complication of labor not of pregnancy.

Dealing with the causation of the death of the fetus during pregnancy, the writer ascribes it to (1) an infection transmitted through the maternal blood stream; (2) an infection transmitted through the germ; (3) an alteration occurring in the circulation of the fetus. He notes as the most important cause, syphilis; as occasional causes, tuberculosis and chronic intoxications, such as alcohol, lead, or albuminuria. Uterine maladies are of great importance, endometritis or fibromata being responsible for many deaths. Fatalities are due also to fetal malformations, to errors of circulation, to knots and twists in the cord, amniotic bands, and abnormal placental insertions. Clinically, after the death of the embryo, the symptoms of pregnancy gradually disappear; diagnosis, however, is difficult. The expulsion of the dead fetus may occur soon or not till term. The practitioner is advised to adopt a waiting policy; having warned the parents, he should watch the patient, and await the natural expulsion of the ovum. A careful examination of the expelled fetus may indicate the cause of death, and be of assistance in determining treatment should the patient become pregnant again. In doubtful cases an antisiphilitic treatment is recommended.

**Acute Symptoms from Torsion of a Dilated Tube.**—Stratz (Zentralbl. f. Gynäk.) reports that a woman, aged thirty-six, was seized with violent pains in the right side when lifting furniture during a house-move. The period had just commenced and the show became profuse. The patient had been



three times pregnant, the third pregnancy ended twelve years before the accident. About a month later the patient was examined; a little hemorrhage persisted; the pain was located below the ileo-cecal region. An elastic, tender tumor was to be felt in the right fornix, and the uterus was slightly enlarged. The tumor, after ten days' rest, was found undiminished in size, nor had the symptoms altered. An operation was therefore performed, tumor of the tube or ectopic gestation being suspected. The right appendages were found to be twisted on their long axis, forming a livid purple tumor, strongly adherent to adjacent structures; it had rolled forwards over the right round ligament, and lay in front of the bladder. The separation of the tumor from adhesions proved difficult; its walls ruptured just as it was nearly free, and thick, yellow, odorless pus, mixed with a few clots, escaped. The patient recovered. The tumor consisted of the right ovary, much enlarged, and a cyst, which was the dilated right Fallopian tube, with signs of old salpingitis. The clots mixed with the purulent contents represented hematosalpinx secondary to axial rotation of a pyosalpinx.

**Local Treatment of Peritonitis by Alcohol.**—From time immemorial alcoholic stimulants have been prescribed, or taken by the patient without being prescribed, as a remedy in septic infection, peritonitis included. It appears that in Bucharest alcohol mixed with saline solution is poured into the peritoneal cavity as a therapeutic measure in septic cases (*Monatsschr. f. Geb. u. Gyn.*) Constantinescu claims the best results in a case of general suppurative peritonitis of uncertain origin, and in a second where that complication followed supravaginal hysterectomy for uterine fibroid. In both instances the peritoneal cavity was flushed out with artificial serum. Then 500 grams more of the fluid containing 5 per cent. of rectified alcohol were poured into the peritoneum, and left there when the abdominal wound was closed. Both cases recovered, and Constantinescu attributes the satisfactory result to antiseptic action exerted by the alcohol in solution. The focus of infection was probably destroyed otherwise than by the alcohol.

**Do Ovarian Dermoids become Cancerous?**—Gorisoutoff (*Zentralb. f. Gynäk.*) is of opinion, after considering a case under his own care, that primary cancer may develop in a common ovarian dermoid. His patient was a virgin, aged forty-five; the menopause had been completed two years previously. She had noticed for two months a swelling of the size of a fist in the hypogastrium, which caused dysuria and constipation. It proved to be an intraligamentary tumor of the left ovary,

which was successfully removed. The tumor was a dermoid, and bore a distinctly cancerous area, with flat cells derived from the stratified epithelium of the dermoid tissue. The patient, as is usually the case after ovariectomy for dermoid, recovered speedily from the operation. Two months later infiltration in the left half of the pelvis was detected, and it spread until the death of the patient within six months. No necropsy, however, is reported. Gorisoutoff states that over twenty cases of primary cancer of ovarian dermoids, which he considers authentic, have been published.

**Esophago-jejuno-gastrostomy.**—Roux (Sem. Méd., January 23, 1907) has devised and carried out a new operation for those patients suffering from impassable stricture of the esophagus. His method of procedure is as follows: The abdomen having been opened in the median line above the umbilicus, the coil of jejunum usually chosen when perforating anterior gastro-enterostomy is seized, and a length of it sufficient to extend from the stomach to the mouth isolated between two pairs of forceps. This segment of jejunum having been isolated, the continuity of the divided ends of the jejunum is re-established by means of a Murphy button. Four or five of the arteries leading to the vascular loops from which arise the vasa recta supplying the separated loop of jejunum are then tied and divided between two ligatures, leaving one large vessel to supply, by means of the vascular loops, nourishment to the isolated jejunum. The lower end of the jejunum, which has been isolated, is then implanted in the stomach as near as possible to the smaller curvature. With a Richelot's forceps one makes under the skin of the median line of the chest a canal, the upper end of which emerges over the manubrium; by opening the forceps and by making a to-and-fro movement, this canal can be enlarged sufficiently to admit the jejunum. Through this canal the upper end of the divided jejunum is drawn.

This operation the author carried out on a child suffering from an almost impassable stricture of the esophagus. In this patient, after the upper end of the jejunum had been drawn through the canal overlying the sternum, an esophageal tube was placed in it, and the opening of the upper end of jejunum tied round it; the walls of the jejunum, where it emerged from the upper part of the canal, were also fixed to the edges of the skin wound. Lastly, the fascia and muscles at the abdominal wound were separated a little to prevent compression of the pedicle, and the skin wound was then closed. At the time of writing, the wounds are healed, the child has gained greatly in strength, and one can see beneath the skin covering the sternum the active contractions of the jejunal loop. From the upper

orifice of the transplanted jejunum only a little mucus escapes, and there is no regurgitation of the contents of the stomach.

**Antisepsis in Midwifery.**—In 1899 Theopold reported on his experience of calomel as a disinfectant for the hands and instruments in obstetrics, but as he only had the results of a small number of cases, the method did not attract much attention. Since then calomel has been employed by several medical men, and also by midwives in a large number of cases; he now brings before readers of the *Deut. med. Woch.* an account of the results. Before calomel was introduced, every year the district in which he is practicing as medical officer of health yielded several cases of puerperal infection, of which a fair number ended fatally. No case has occurred in the practice of any doctor or midwife since they have taken up the use of calomel. Since 1899 only two fatal cases have been reported, both in the country, and both in the practices of midwives who had not adopted this form of antisepsis.

The harmlessness of calomel depends on its small solubility. It is absolutely insoluble in water when kept in the dark. When exposed to light, calomel gives off some of its chlorine to the water, and is transformed into corrosive sublimate. With albuminous substances it is soluble in alkaline solutions. The action of calomel depends on the power of coagulating albumin, and on the fact that a sufficient quantity is dissolved in the secretions to act as an antiseptic. He has performed a number of experiments which he believes are capable of demonstrating the antiseptic effect of calomel in the presence of albuminous fluids.

When used by midwives, he thinks that the quantity of the powder employed at each case should be small—for example, one gram, and when manipulations are made inside the uterus it is wise to oil the hands well and to apply as little calomel as possible, since symptoms of mild hydrargism have been noticed twice from the use of calomel in obstetrics. Based on the experience of between 4,000 and 5,000 cases, his opinion is that calomel is a safe and efficacious disinfectant, which is especially suitable for midwives, and he states that if any medical man is dissatisfied with his ordinary methods of disinfecting for labor cases, he can strongly recommend the calomel procedure.

**The Treatment of Fractures.**—Desquin (*Journ. Med. de Brux.*), reviewing the treatment of fractures, considers that the physical, material, and anatomical considerations have too often blinded the practitioner to the physiological and biological indications which should be his guide in the treatment of fractures. He enters a plea for the employment of the more ra-

tional measures—massage and movement. In 1900 Lucas-Championnière wrote: "For more than twenty years I have effected in the treatment of fractures a decided change, whose fundamental condition is methodical movement, with or without massage. The early application of movement to a broken limb forms the basis of this method, and seems to differentiate it entirely from any method previously advised by me." The author does not wish the idea to become established that the doctor who does not constantly manipulate a fracture is negligent.

When confronted with a fractured limb the medical man should have one idea in his mind, and one only—that is, to restore to the limb all its function. A good skiagraph, if it can be easily obtained, is useful but by no means essential, and the author thinks that the postponement of treatment for this purpose has often done harm. The limb should regain its muscular force, its suppleness, and its normal state of painlessness. The first essentials, then, are to prevent deformities, to guard against ugly callosities, to maintain the movement of the joints, to make the muscles work, and to prevent anything that may cause pains in the future—namely, rigidity, adhesions, or bony atrophy. The muscles must quickly recover their condition of functioning and their vitality, and the joints must be left free to act. For this reason apparatus must be discarded. Apparatus only fulfill one condition—that of preventing deformities of the limb; they can never be made to leave the joints and muscles free. To obtain the best results the cure must be quick. To sum up: movement should be the chief aim of the surgeon in the treatment of a fracture. Massage will be most useful in the treatment of an old fracture, where, owing to wrong treatment in the beginning, rigidity and atrophy have occurred.

**Hydramnion: Is Abdominal Puncture Justifiable?**—Nijhoff (Zentralbl. f. Gynäk.) in relating an instance in his own experience before a medical society, turned attention to several questions which were afterwards discussed. In his case of hydramnion it was situated in the upper ovum in a twin pregnancy. He tapped the upper sac by simple puncture, without making an incision through the parietes. Scarpa and Petrus Camper had recommended puncture of an hydramnion in the eighteenth century, and in the nineteenth Schatz had spoken approvingly of the practice. Nijhoff limits puncture to twin pregnancies, where the dropsical amnion cannot be reached from the vagina. With aseptic precautions puncture is not dangerous, and there is little if any, fear of hemorrhage, as the minute track made by the needle closes rapidly. In the discussion, Oidtman stated that he had punctured the

dropsical amnion in a simple pregnancy where the patient was extremely weak, so that she could not very well bear being placed in the lithotomy position and subjected to a vaginal operation. In reply to Meurer, who asked how Nijhoff felt sure that the lower ovum in his case was not dropsical, the reply was that a hard and not freely-movable mass, part of a fetal body, was definable below the hydramnion. Ribbius deprecated puncture without incision, but Nijhoff considered that the surgeons' theory about incision being less dangerous than puncture was, as far as regards hydramnion, not proven. Incision no doubt allowed the operator to control hemorrhage, the risk of that complication was trifling.

**Sloughing of Bladder: Retroflexed Gravid Uterus; Anus Vestibularis.**—Orthmann (Zentralbl. f. Gynäk.,) Observed these complications in a woman aged 18. The last period occurred at the end of January; two months later pains in the region of the bladder set in. By the beginning of May voluntary micturition became impossible, and incontinence of urine was observed; the latter symptom soon caused great distress, as the urine, which constantly dribbled away, was very fetid; it was smoky, and held pieces of broken-down tissue as well as clots. Orthmann examined the patient in the middle of the fourth month. The uterus was clearly definable; it was retroflexed and incarcerated. The bladder was distended to an extreme degree, yet its walls were much thickened. The uterus was carefully reduced; although the patient's temperature was high at the time the pregnancy was uninterrupted, and the patient was going on favorably, in the sixth month, when the case was reported. The bladder was at first washed out with a 2 per cent. boracic acid lotion, and urotropin, with uva ursi, was given internally. The patient was soon restored to comfort; the urine became almost clear. There was congenital anus vestibularis, but no details of that condition are given in the report.

**Hematocolpos.**—De Salm (La Clin.) considers that hematocolpos is a rare affection, that it does not occur unless a distinct part of the vagina is present, with healthy uterus, tubes, and ovaries capable of performing their natural functions. It is caused by a malformation of the vaginal canal or of the external genital organs. The error of formation is never very great, as it would then promote atrophy of the internal genitals, especially of the ovaries, and menstruation would not occur. The obstruction is commonly due to an imperforate hymen, or to a band obstructing the vagina, or even to constriction or stenosis of the vaginal canal. The origin of the latter is gene-

rally due to an inflammatory or specific ulceration of the vagina, or a chronic vaginitis. Cicatricial constriction has followed injuries received during labor, or an attack of smallpox or typhoid fever. It may also be due to cancer obstructing the vagina. Hematocolpos first manifests itself by attacks of pain, which occur at regular periods, the patient being quite comfortable in the intervals, a hypogastric tumor appears and there is usually some nervous disturbance which may amount to neurasthenia. The pain is described as uterine colic, and may be accompanied by rectal or vesical tenesmus and discomfort about the vulva. There is a general constitutional disturbance. Accessory hemorrhages are noted, such as epistaxis, hemorrhoids, or hematemesis. Mental troubles, terminating in melancholia or mania, may complicate the situation. When hematocolpos is thought of, it is not difficult to diagnose; it must be distinguished from hematosalpinx, where the uterus lies between two well-defined swellings, and pregnancy and an ovarian cyst. Treatment is mainly surgical, an imperforate hymen is divided by a vertical, transverse or crucial incision, the accumulated fluid is evacuated and vaginal douches are given. When the obstruction is caused by the absence of the lower part of the vagina colpoplasty is required. The results are good.

**The Treatment of Tuberculous Coxitis.**—In a clinical lecture, A. Hoffa (*Deut. med. Woch.*) compares the surgical and conservative treatment of tuberculous hip-joint disease, and gives his opinion as to the methods of carrying out the latter, and the indications for the former. Speaking broadly, he says that tuberculous coxitis in childhood should at first be treated conservatively, while when the disease attacks persons over 20 years of age, resection should be performed. The hip joint of children has a marked tendency to heal up spontaneously, as can be recognized in cases of country people who have got over severe hip disease in childhood without any medical treatment. In adult life, on the other hand, the disease offers a bad prognosis, and it is generally found that the hip joint is not the only tuberculous focus in the body.

In childhood the majority of the cases can be cured—that is, the disease can be arrested and the focus encapsuled, or the whole focus can be removed. In quoting the various results obtained in different clinics, he lays greatest stress on the statistics of the Tuebingen clinic, where 321 cases were treated. Of these 55.7 per cent. were cured; 76 per cent. of the cases without suppuration were cured while only 41 per cent. of the suppurating cases did well; 40 per cent. of the patients died. The fatal cases consist of 22.5 per cent. of the non-suppurating and 52.0 per cent. of the suppurating cases. While suppuration is

thus shown to be a bad prognostic sign, he does not regard the presence of an abscess as an indication for operation. As long as one is not tempted to open subcutaneous abscesses by large incisions, one can hope to cure the suppurating cases. Cold tuberculous abscesses, unlike acute abscesses, should not be incised; this always leads to the formation of a fistula, and, the door being open for septic infection, renders the prognosis much worse. Neither does he regard the presence of a simple localized focus in the bone as an indication for operation. When one watches such a focus by Roentgen rays, one frequently sees that the disease is not spreading, and after a while it commences to become encapsuled. Only when there is a distinct spreading of the focus should one perform resection.

In carrying out a conservative treatment, he says that when the coxitis is treated early, when the X-rays show that the process is limited to the synovial membrane, one may aim at obtaining a movable joint, and one will mostly be successful. When, however, the joint is partly or wholly undergoing a destructive process, and whenever there is an abscess in the joint no attempt may be made to obtain a movable joint; one should then do all one can to get ankylosis. The ankylosis should be obtained in a position of slight abduction and extension. Shortening cannot be altogether avoided when the articular surfaces of the bones have been destroyed. The actual treatment consists in attending to the child's general health in the first place and treating him locally in the second place. There is no doubt that hygienic measures are of the utmost importance in the treatment, and light, air, good nursing, and good feeding each claim a place. Seaside, woodland, or mountain air all have their advantages.

**Diagnosis of Congenital Dislocation of the Hip.**—J. Privat. (*Journ. des. Prat.*) gives briefly the signs by which one may suspect congenital dislocation of the hip in a child, and finally describes the methods which should be employed to verify the diagnosis and to estimate the prospects of success by suitable treatment. When the dislocation is a double one, the walk of the patient is almost pathognomonic of the condition. The child limps, but there is no associated painful limping; the step is free and normal, and the foot is carried resolutely forward. In a double dislocation the height of the body at each step is inclined abruptly to the side of the leg which rests on the ground; it seems as if the support on which the patient proposes to rest is suddenly drawn away, so that the trunk sinks; the gait, therefore, resembles very closely the "waddle" of a duck. When unilateral, this limping character

is similar but one-sided. A marked lumbar lordosis is present; the waist appears shortened, and the pelvis seems enlarged from the projection of the trochanters.

To verify the diagnosis of a congenital dislocation of the hip one must demonstrate the absence of the femoral head from the acetabulum; to do this one may either employ the X-rays or demonstrate the condition clinically and in the following way: With the child lying flat on its back, one grasps the lower end of the femur with the right hand and imparts to the limb movements of flexion and extension and rotation; with the other hand one seizes the upper extremity of the femur, and recognizes in turn the outermost projection (the great trochanter), and internal to this the femoral neck, and still more internal the femoral head. If there be no dislocation, the head of the femur will be felt with difficulty, and on hyper-extending and externally rotating the thigh a prominence (the head of the bone) will be seen in Scarpa's triangle. If a dislocation be present the head of the femur can be plainly felt, and at the place where the head of the bone should normally be, one finds an emptiness. This demonstration of a mobile femoral head outside its normal position, together with the absence of previous symptoms of disease or injury, is sufficient to differentiate the condition from traumatic dislocation or hip disease.

The head of the femur in congenital hip dislocation may be either below the level of the anterior superior spine of the ilium, on its level, or well above it; in the first case reduction will be easily effected, in the second with more difficulty, and in the last with still greater difficulty. Further, reduction is easier when the head of the femur is in front of the acetabular cavity than when it is behind it. In a few cases the femoral head is situated above the normal position, but is not freely movable; in these cases the head of the bone has formed a new acetabulum for itself; these cases differ from the ordinary forms of congenital dislocation in the fact that walking causes pain; reduction also is difficult in these cases.

**Cyst of Hymen and Pregnancy.**—Kuntzsch (Zentralbl. f. Gynäk.) reports a case of dyspareunia from vaginismus and a tumor obstructing the vulval cleft. The patient was 31 years of age and barren, but had only been married for two years. The periods were scanty and had recently appeared at intervals of about six weeks, previously the interval was not longer than a month. Coitus was very painful and had never been complete. Yet after an operation had been performed it was found that she was actually pregnant when it was undertaken. The pelvis was narrow, the vulval cleft lay abnormally backwards;



there was a fissure at the attachment of the hymen. The border of the hymen was intact and its orifice occluded by a valve-like structure. The hymen was excised, and the resisting structure proved to be a cyst of the size of a plum; its anterior wall was the hymen itself; behind and above it involved the vagina. The uterus was examined after the removal of the cyst; the sound passed 3 in. into the cavity, and there was free mobility. The period had not been seen for six weeks. On the twelfth day after the operation the patient aborted, expelling an ovum of the size of a walnut, which contained a fetus 5 millimeters in length. The introitus was no longer sensitive.

**Thrombosis and Embolism after Gynecological Operations.**—Zurhelle (Zentralbl. f. Gynäk.) recently reported the experience of the Gynecological Clinic at Bonn. As elsewhere, the largest percentage of post-operative thromboses followed operations on myoma (2.75 per cent. at Bonn), the heart's action, etc., being often impaired before the operation by chronic anemia, abuse of ergot, and mischievous expectant methods of treatment. Next to hysterectomy for fibroid and myomectomy, operations on malignant tumors where cachexia or ascites were present were the most frequently followed by thrombosis. The complications might be associated with other operations, such as oöphorectomy and fixation of the misplaced uterus, but not for any special reason. The general causes of thrombosis, rarely found singly, were sepsis, cardiac disease, chill during the operation, damage to blood vessels, circulatory disturbance from the anesthetic, and post-operative influences such as disturbance to the circulation from tight bandages, tympanitic distention, and prolonged rest on the back. Zurhelle found that women of the upper classes were much more liable than the poor to post-operative thrombosis. In the discussion on Zurhelle's report there was much difference of opinion as how long the patient should be kept in bed. Fritsch, like Witzel, and several Americans, as well as Krönig and Zurhelle, believed that there was less chance of thrombosis and embolism if the patient were made to get up on the third or fourth day. Fritsch pointed out the dangers of chill during aseptically preliminary measures, and during abdominal sections where very long parietal incisions were made. Weak subjects also required free injections of fluid by enema or subcutaneously. Lastly, in order to diminish the risks of thrombosis, weakly women should be subjected to careful preliminary dieting whenever their case was not urgent.

**Diagnosis of the Period of Pregnancy.**—Funck-Brentano (La Clin.) considers that it is not possible to do more than calculate the approximate date at which delivery will take

place. Even when the date of the last or only coitus is known, it is little guide to the date on which conception has occurred, since a period of from eight to fourteen days may elapse between connection and the penetration of the ovum by the spermatozoon. Further, the date of coitus is frequently unknown, and the calculation is based upon the date of the last menstrual period. In these cases the date of conception may be anything, between a few days after the last period and a few days preceding the period which is missed. The average number of days between conception and delivery is 270 to 286, though many observers have quoted instances in which it extended to 252 and 326 days, and it is not uncommon to find a pregnancy terminate more than 300 days after the end of the last menstrual period. It is easy to make a miscalculation, and the error may be large when the woman is inaccurate or does not recollect, or when she has no periods, as in the case of those who are nursing. It is usual to base the calculation upon the date on which the woman has experienced fetal movements for the first time; this may be said to occur generally during the first fortnight of the fifth month, but it varies considerably with individuals, and has been known to mislead by weeks or even months.

The size of the uterus is the best and most certain guide. Some authors take their measurements by starting from the umbilicus or from the xiphoid cartilage, but they are liable to forget that the distance of these points from the symphysis pubis varies in different women. The height of the umbilicus above the pubes may range from 12 to 20 cm. The measurement should be taken from the upper margin of the symphysis with a measuring tape laid along the median line to the upper level of the uterus. The height to which the uterus rises at the same period of pregnancy differs in individuals, and will differ in the same individual during different pregnancies. It is therefore only possible to give a table of the average height which it attains in the various months: At three months, 9 cm.; at four months, 15 cm.; at five months, 20 cm.; at 6 months, 24 cm.; at seven months, 27 cm.; at 8 months, 30 cm.; and at nine months, 34 cm.

Dr. Macdonald of New York, who has made a study of this point, concludes that the height of the uterus above the pubes, measured in centimeters and divided by  $3\frac{1}{2}$ , will give the age of the pregnancy in lunar months fairly exactly. Thus, if the height of the uterus were 26 cm., the woman would have been pregnant for 7.3-7 lunar months—that is, for 7 months and 12 days; and when the measurement is 35 cm., the pregnancy is 10 lunar months old—that is to say, is at term. When measuring, the fingers of the right hand are placed on the fundus, and the tape is brought up to the palmar surface of the second phalanx of the index finger, so that the tape does

not lie in its entire length against the abdominal wall, thus avoiding an error. When the abdominal tissues are lax it is well to have the uterus supported in the longitudinal axis by an assistant. Macdonald considers 35 cm. to be the usual height of the womb at term, and 3,300 grams to be the usual weight of the fetus at term; he finds that for every centimeter of height above 35 the child will weigh another 200 grams. When the practitioner who is acquainted with the probable height of the uterus at the various months finds his measurements to be abnormal, he will investigate the cause; thus, if the uterus be abnormally large, he may be able to diagnose a twin pregnancy; or, if it be abnormally small, he may discover that the fetus is dead.

**The Chorea of Pregnancy.**—Rudaux (La Clin.) writes that when chorea is first noticed in a pregnant woman a vigorous antitoxic treatment must be instituted. Milk diet is essential. The intestine must be cleared out by the administration of a purgative, followed by fractional doses of calomel and copious injections. The urine should be thoroughly examined, both as to quality and quantity. By these means the cause of the manifestation may be reached, but the nervous system is in a state of hyper-excitability and demands special treatment. He prefers large doses of chloral to other drugs, and would give from a dram to 3 drams in twenty-four hours if necessary. It may be administered either by mouth or by rectum. In the latter case a dram of chloral may be added to the yolk of one egg and 4 oz. of milk, and be passed into the rectum very slowly with a fine syringe. This will send the patient to sleep for some hours; she should only be roused to take milk at stated intervals. The chloral should be gradually increased from 1 to 2 or 3 drams, and then diminished as the symptoms subside. It should only be stopped when these have completely disappeared. Abortion or premature labor should only be undertaken when the life of the woman is in danger.

**Uterine Fibroid and Cancer.**—Max Schwab (Beiträge zur Geburts. u. Gynäk.) reports very minutely a case where a woman, aged thirty-seven, was subject to severe abdominal pains, menorrhagia, and high temperature. There was a tender swelling of the size of a hen's egg in Douglas's pouch. Disease of the appendages was suspected, but at the operation the swelling proved to be a myoma, which was enucleated without much difficulty. Some small subserous outgrowths were excised from the surface of the uterus, and that organ, having been fixed forward by intraperitoneal shortening of the ligaments, was not removed. On microscopic examination

of the parts removed they proved to be adenomyomata undergoing cancerous degeneration. The growths were removed on January 15, 1907. The uterus remained movable and free from enlargement up to April, when the patient was last under observation, but Max Schwab feels certain that signs of advance of the malignant disease must soon make their appearance.

**Congenital Dilatation of the Colon.**—Tuffier (Bull. et Mém. de la Société de Chir. de Paris) reports a case of a congenital condition of the large intestine known by the titles of idiopathic dilatation of the colon and megacolon. The patient was a female aged twenty years, who came under the author's care with a swelling of the size of the fetal head, in the lower part of the abdomen, the steady growth of which during a period of seven years had been associated with dyspeptic troubles and obstinate constipation, gradually increasing in severity, and ultimately causing much disturbance of the general health, with debility and emaciation. The physical characters of the growth and the evidence afforded by rectal and vaginal examination favored the diagnosis of an ovarian dermoid cyst, but, on exposure of the abdominal contents by infra-umbilical laparotomy, the abnormal condition was found to be due to excessive distention of the descending colon, the mesenteric vessels of which were much enlarged. The enormous loop, which is well shown in copies of photographs taken during the operation, was opened, and a large stercoral calculus, weighing over three pounds avoirdupois, was removed. The patient was much relieved by this operation, but after an interval of one month again came to the author, complaining of abdominal tenderness and occasional colicky attacks.

At a second operation the descending colon was again found distended, but quite free from any obstructing body. Enterostomosis was now established between the healthy part of the colon above the swelling and the upper part of the rectum, the distended loop being imperfectly excluded by constricting by means of sutures its proximal and distal ends. The patient when seen again six months from the date of the second operation was quite free from any abdominal trouble, and in good general health.

The author gives the results of a study of 88 cases of this affection. In dealing with the pathology of the affection which is the subject of this paper the author states that it consists in enormous distention of a part or of the whole of the colon, the walls of the affected intestine being thickened, tough, and of a pale color, and the mucous membrane hypertrophied and ecchymozed. The presence of a stercoral secre-

tion as a complication of the affection is relatively rare, as it was noted in only 6 of the collected cases. Except in one very doubtful instance, there is a constant absence in all the records of any mention of a definite obstacle to the passage of feces. In 61 of the 88 cases the patients had passed the age of nineteen years; 21 patients were in the first year of life; and one was a fetus of 7 months. Notwithstanding the occurrence of the affection in subjects of middle, and, indeed, of advanced age, the author agrees with those observers who regard it as a congenital hypertrophic lesion, and classifies it together with those forms of hypertrophy of limbs, and of macrodactyly, the mode of genesis of which is still unknown. In cases of megacolon attention is nearly always attracted by intestinal troubles, the usual symptoms being in order of frequency: abdominal distention (78 cases); constipation (77 cases); tympanism (31 cases); diarrhea (27 cases); abdominal or rectal tumor (10 cases).

A large proportion of the infantile subjects of the disease die, it is stated, at any early stage, the cause of death being chronic obstruction and stercoremia or acute obstruction. Those who have attained adult age may live for a very long time in spite of the persistent constipation, the stercoremia which must be caused by so much fecal retention being evidently well tolerated. In these cases, however, indicanuria is, it is pointed out, a frequent symptom. In discussing the diagnosis of this form of intestinal distention Tuffier holds that any attempt to determine the seat, volume, and extent of the swelling by injections of bismuth, followed by radiography, would be dangerous and useless by reason of the enormous quantity of fluid required, and of the abundance of solid matter in the distended colon. In cases of this disease medical treatment consisting in the administration of high enemata and of purgatives, especially castor oil, should always be tried at first, and be continued for some time. Such treatment, except in very urgent cases, should not be neglected, for, if carried out properly and regularly, it may enable the patient to live for many years. In considering the indications for surgical intervention and the most suitable methods of operative treatment, it is necessary to distinguish between acute cases in which it is the surgeon's duty to ward off imminent death, and chronic cases in which he acts with the object not so much of saving life and giving immediate relief as of effecting a cure by suppressing the intestinal distention.

In urgent cases, in which prompt intervention is demanded for the relief of acute obstruction or intense stercoral intoxication, colostomy, notwithstanding its high mortality under such circumstances, is especially indicated. This, however, is regarded by the author as simply a palliative operation, for although the regular discharge of matter from the intestine

permitted by the artificial anus may lead to atrophy of the distended colon, experience has shown that a satisfactory cure is not likely to be obtained except by some more radical measure. In chronic or passive cases and under conditions favorable to operative treatment colectomy or ablation of the dilated portion of colon and lateral anastomosis of the healthy portions of intestine above and below the swelling, together with exclusion of the affected loop, are, in the opinion of the author, the two best methods of operative treatment. It has been found, however, that even in the most successful case neither of these operations is capable of affording a complete cure, as each is likely to be followed by a weakness of the intestine necessitating medical treatment in order to prevent fecal accumulation and to guard the patient against the ill effects of stercoremia

**Transverse Incision of the Kidney in Nephrolithotomy.**—Marwedel (*Zentralbl. für Chir.*) refers to two cases of nephrolithotomy by the usual longitudinal incision of the kidney, in which profuse primary hemorrhage necessitated nephrectomy. A case under his own care, in which he had much difficulty in controlling the hemorrhage from the longitudinal incision, led the author to carry out in actual practice Hermann's suggestion based on experimental research that a transverse incision made midway between the upper and the lower pole of the kidney would present several advantages over the ordinary method of reaching a renal calculus. Five cases are here reported in which the author extracted calculi through a transverse incision, and found, contrary to his anticipations, that the operation was thus much facilitated and the extent of bleeding reduced. The wound in the kidney, in this method, is deepened until a calyx is exposed, the wall of which is then incised so as to allow the introduction of the operator's finger and free exploration of the pelvis. By making a small transverse incision it is easier to expose a calyx, and the surgeon runs less risk of losing his way in the fat surrounding the hilum of the kidney. In concluding his paper he states that he has been convinced by his personal experience that the transverse incision of the kidney can be confidently recommended in all uncomplicated cases of renal calculus in which the urine is acid and there is but slight infection of the renal pelvis. On the other hand, in cases of suppuration of the renal parenchyma, and if there be indications of a tuberculous or very large abscess, the longitudinal incision will, of course, be practiced, as this alone would permit sufficient exposure and removal of the scattered purulent foci.

**Radical Cure of Femoral Hernia.**—G. Monzardo (Il Morgagni) recommends that all cases of femoral hernia should

be operated on, and records 32 cases of his own, 10 of them strangulated, all healing by first intention, and only one relapsing. His paper is especially occupied with one of his cases, in which, soon after operation for inguinal hernia, a femoral hernia developed and increased in size, until at the time when he operated it was of a diameter of 20 cm. Unlike most large femoral hernias it was entirely reducible, and contained only small intestine without omentum. The sac was ligatured and cut off, and the aperture through which the hernia had escaped was closed by five stitches, uniting the Fallopian arch to a musculo-aponeurotic flap raised from the adjacent part of the pectineus muscle and its fascia. The immediate result of the operation was good, but the hernia recurred later, and Monzardo believes that no operation yet invented is to be relied on for the certain cure of a large femoral hernia. The method employed in this case has since been followed by another surgeon, who has claimed priority. The author considers operation for inguinal hernia an important cause of femoral hernia.

**Abdominal Pains during Pregnancy.**—Rudaux (La Clin.) directs attention to the number of diseases which may supervene during pregnancy, and which are ushered in by pain occurring at the same spot in the abdomen. The complaints which occur most frequently in pregnant women are, in their order of frequency, pyelonephritis, which is situated ten times out of twelve on the right side, appendicitis, biliary colic, renal colic, cholecystitis, and torsion of an ovarian pedicle. Pyelonephritis is characterized by pain in the lumbar region radiating downwards and inwards, and into the groin. If the pregnancy is an early one it is possible to palpate the renal region; pressure will cause acute pain, and the pelvic portion of the ureters will be painful and tender when examined by the vagina, such examination may even excite pain in the opposite kidney. The urine for the twenty-four hours should be collected; micturition may be frequent, the urine is often fetid, and contains pus or blood, thus confirming the diagnosis. When the pain is appendicular, there may or may not be a history of previous attacks. The pain is sudden in onset and acute, it is not always located in the right iliac fossa, but may be spread over the right side and lower part of the abdomen. Palpation reveals tenderness and resistance near or over McBurney's point, unless the accompanying peritonitis is generalized. The presence of rigors, quick pulse, high temperature, and vomiting are diagnostic. In biliary colic the pain is paroxysmal, it occurs two or three hours after food, it is situated in the right hypochondrium, radiating to the shoulder or the umbilicus, it is very acute. Food and bile are vomited, and the pain is localized at the point at which the right rectus muscle intersects the tenth rib.

Cholecystitis is rarely met with till the later months of pregnancy; its onset is sudden, the pain being experienced in the right hypochondrium and right side of the abdomen; it is often accompanied by rigors, fever, and nausea. Palpation is very difficult, but when the contraction of the muscles is overcome, a large oval, irregular-shaped tumor, continuous with the liver, may be distinguished. Renal colic has characteristic pain in the lumbar region, passing into the external genitals, and the urine is scanty and muddy. When intestinal obstruction supervenes—a relatively rare event in the pregnant woman—the pain is accompanied by vomiting, the abdomen is distended, and there is no passage of flatus or feces. The general symptoms are well marked, the pulse being rapid, and the temperature low. Torsion of the pedicle of an ovarian cyst is more common on the right than on the left side; the pain is acute enough on the syncope, there is dyspnea, vomiting, a rapid pulse, constipation, and meteorism. The presence of two tumors is sometimes detected on palpation.

In the earlier days of pregnancy pain may be the sign of the rupture of an extrauterine conception, in which case it is associated with syncope and signs of internal hemorrhage. The premature detachment of an abnormally inserted placenta will give rise to sharp pain in the abdomen. The greater number of these affections may manifest themselves for the first time, or may recur at the time of delivery, and must be distinguished from accidents occurring during labor, especially from rupture of the uterus. Should they arise after parturition, it is necessary to distinguish them from puerperal infection and the symptoms it causes.

**Exercise and Rest in Obstetrics and Gynecology.**—Kroenig points out that in order to maintain a maximum degree of functional activity of the organs of our bodies, it is necessary to give them a proper measure of rest and exercise. This applies not only to the conditions of health, but also to disease conditions, and he exemplifies the modern treatment of heart disease in support of this contention (*Deut. med. Woch.*). He therefore inquires into the conditions met with in pregnancy and lying-in from this point of view. Pregnancy requires an increased production of highly complex organic substances in the mother's circulation; it requires an extra amount of muscular activity and additional function of the mammary glands for the nutrition of the child after it is born. The fact that English women have easier and quicker birth than German women, he believes, is due not only to the less frequent contraction of the pelvis, but also to the fact that English women are better prepared for the strain of pregnancy and parturition by taking part in all sorts of sport.



With regard to mental exercise during pregnancy, he considers that experience has given us an index that all taxing of the nervous system may be harmful. Shocks and mental impressions are known to check the flow of milk from the mother's breasts. For this and similar reasons he advises that women during pregnancy, puerperal state, and lactation should desist from undertaking severe mental tasks. But bodily exercise is a different thing. Very violent work, and especially heavy straining, no doubt does play a certain part in bringing on premature labor, but he does not think that this will be the case unless other circumstances assist. In any case, the risk appears to be greatest during the third and fourth month, when the changes in the lower uterine segment tend to render the pregnancy less stable than during the other months. He therefore advises women to indulge in cycling, mountain climbing, and other forms of muscular exercise during pregnancy, save when, during the third or fourth months, there are signs of threatening abortion.

Turning to the puerperal stage, he points out that the habit of keeping a woman in bed for from ten to twenty days is based on the belief that the uterus and vagina tend to prolapse, the involution does not proceed as quickly, the danger of thrombus and embolus is greater, and the occurrence of pelvic troubles more frequent, when they get up early. Since he has used injections of morphine and scopolamine to lessen or remove the pain of childbirth (he has now an experience of about 1,500 cases) he has allowed a certain number of his patients to get up from eight to ten hours post partum. Among 250 private patients, 70 per cent. have got up during the first day. In all, 417 of his patients got up on the first, second, or third day. Of these, only 7 per cent. had a single rise of temperature over 100.4° F., as against 14.5 per cent. of those who got up on the sixth day or later. He did not lose a single patient from any cause; he did not experience a single case of thrombus or embolus (as against 3.4 per cent. in those who got up after the eleventh day); while he found that his patients who got up before the end of the third day were better able to nurse their babies, and the involution proceeded quite as fast and completely as when they stayed in bed. The fact that the morphine and scopolamine prevented them from feeling exhausted after the labor permitted him to ask the women to get up during the first day, and in most cases they were quite ready to do so.

The gain by avoiding an accumulation of lochia in the vagina and of feces in the rectum is a great one. He claims that by letting patients get up early one increases the appetite, keeps the bodily strength up to a high level, and keeps the spirits up, and thus indirectly raises their resistance against infection. He makes them carry out gymnastic exercises, which are

calculated to strengthen the abdominal and pelvic muscles, and in this way all inclination towards prolapse is removed. These exercises consist in bending the body down and raising it again and in working the gluteal and adductor muscles. With regard to the frequency of pelvic disturbances, he is of opinion that the psychical factor plays a great part in their occurrence. A married woman is only too ready to localize all her aches and pains in her genital sphere, and the best treatment against this is to distract her mind from these organs. This can be better carried out if one allows her to get up early and forget all about her uterus than by allowing her to be an invalid for a fortnight and think about her womanhood all the time.

Turning to gynecology, Kroenig argues on the same sort of basis. He has found it possible, since he has replaced inhalation anesthesia by lumbar anesthesia, to let his laparotomy patients get up early. Among some 300 operations, including myotomies, total extirpation of the cancerous uterus, appendicitis operations, etc., all the patients got up on or before the fifth day, while in the last 100 operations 71 got up on the first day. With the exception of one patient, who died after the removal of a carcinomatous uterus (she was suffering also from syphilitic endocarditis), he did not lose a single patient from the operations. Not one case of sepsis occurred, nor did he see any cases of femoral vein thrombosis or of embolus. He deals with the advantages of this procedure at some length.

**Pregnancy and Double Uterus.**—Cealic (Monatssch. f. Geb. u. Gyn.) states that within seven years six cases of labor at term where the uterus was double took place in the Bucharest Lying-in Institute. In all the six, however, the cervix was single; diagnosis by palpation was easy. The muscular coat of the cornua is usually defective in parts, and thus rarely contracts thoroughly; hence lingering labor, retained placenta, and post-partum hemorrhages are frequent. Axler (*ibid.*) admits that duplicity is often overlooked in parous women, and not discovered until after labor or death. Uterus bicornis and the less complete types of duplicity are the commonest malformations. Provided that the ovum can enter a uterine cavity, gestation to term may occur in any form of duplicity. Faulty presentations of the fetus are, however, frequent. When sepsis occurs it is usually due to infection of the cornu which is not the seat of the pregnancy.

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## THE DRAINAGE PROBLEM: AN ATTEMPT TO SOLVE IT.

BY HORACE PACKARD, M. D.

Notwithstanding the protestation on the part of many abdominal surgeons that drainage is or has been resorted to too much and that the best interests of the majority of abdominal cases is best subserved without drainage, to all of which the writer agrees, nevertheless there is an appreciable number of cases where drainage of some kind is necessary. Most cases of gall bladder and gall duct surgery must be drained; scarcely a surgeon feels safe to leave an abdominal wound made for dealing with a pelvic abscess without providing for drainage. In fact, there is hardly any abdominal operation which deals with localized or general septic infection but what the question of ways and means of providing free drainage arises.

The writer desires it distinctly understood that he does not practice and is making no plea for drainage in cases which are aseptic at the time of the operation. In such cases the adoption of drainage is only a confession of the operator's doubt in his own technic. Abdominal drainage presents peculiar mechanical difficulties. The abdominal wound is usually at a

point where so-called dependent drainage is impossible. At most a drain adjusted at the usual site of an abdominal wound simply provides overflow.

Of all devices, the rubber tube single or double has stood the test of time, and is probably more widely used to-day than anything else. It possesses qualities in the matter of flexibility, ease of sterilization, cheapness, safety, and adaptability, that commend it beyond any other substance.

Capillary drainage with gauze wick was welcomed as a promise of more effective abdominal drainage that had hitherto been accomplished. How ineffective this is after the first few hours is the common knowledge of every surgeon. It quickly becomes a soaked and sodden mass, its meshes filled with coagulated lymph so that it thereafter acts as a plug rather than a drain. It has been the writer's experience not a few times to find, on withdrawal of a carefully adjusted gauze wick, that it has totally failed of its purpose and the exit of fluid for the time being has been prevented as effectually as if the abdominal wound had been closed.

It is impossible to readjust a gauze wick in the abdominal cavity with any satisfaction after the original has been withdrawn. It is extremely painful to the patient to have a gauze wick withdrawn from the depths of the abdomen. The meshes of the gauze become so adherent to the peritoneum that it is a common experience to draw a loop of intestines into the wound. Not many patients can tolerate this without an anesthetic, indeed it is cruel to do it without.

In recent times an effort has been made to remedy this difficulty by enclosing the wick for a part of its length in a thin casing of rubber, and while this does make removal less difficult it does not increase its efficiency as a drain.

The device which I have to present is so trifling a departure from that already in use that it hardly deserves the credit of originality. Of its efficiency, however, I have ample evidence since it has been in use for a year or more and has presented none of the disadvantages of others.

It consists of three small soft rubber tubes, the smaller the better (each of a diameter of 1-12 to 1-10 of an inch is ample), vulcanized together so as to have a central triangular channel all along between them. On section it shows like this

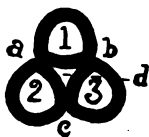


Fig. 1.

1-2-3 represent the calibres of the tube the combined diameter of which equals about 1-4 inch (about the diameter of a single drain tube of the size ordinarily used). The grooves a-b-c extending longitudinally exercise a distinct capillary action in delivering fluid at the surface. The triangular channel -d-

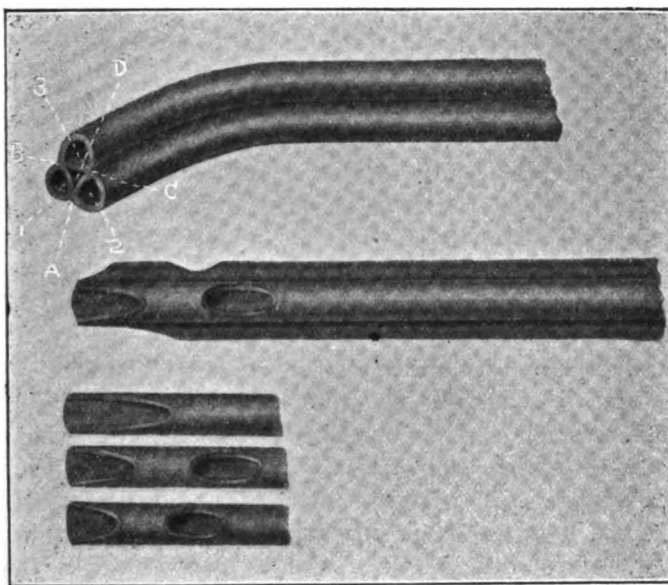


Fig. 2.

with three knife-edge angles exercises further capillarity in the drainage process.

Altogether there are seven channels of drainage. This drainage force may be multiplied any number of times by simply placing two, three or four of these drains side by side or laying them off at different angles and arranging for their exit at one place or at separate openings.

The efficiency is so great, however, that one line drain is sufficient for pelvic drainage, a circumscribed abscess, or bile ducts and gall bladder. For general abdominal drainage, several lines must be laid converging at the abdominal wound.

Let us glance for a moment at the actual working of this drainage scheme. Take for illustration a tubal abscess. Abdominal section has been made and a pus tube is found but it is ruptured in course of removal and infective matter escapes. Drainage is desirable to provide for delivery to the surface of pus and fluid which may collect in a few days immediately following the operation. A single line of triplex drainage is adjusted extending from the cul-de-sac to the surface and is fastened in the wound by a fine silk or Pagenstecher thread, and left long enough to curve over the abdomen laterally, well to the side. The rest of the wound is closed with the same accuracy and care as usual. The ordinary dressing is applied but the drainage tube is made to protrude through it laterally, and its projecting end is enveloped in a wad of gauze. In a little while this wad is found soiled with discharge which has been conducted out from the depths of the pelvis without materially soiling the packing in immediate contact with the wound. The wad of gauze over the end of the tube can be changed as often as necessary without disturbing the wound dressing.

In a recent case of drainage of the common duct the drainage of the wound proper was changed but twice in ten days. The bile was conducted by the triplex drain outside the binder to a wad of gauze, itself changed once in three or four hours.

Again in the matter of flushing a cavity. Irrigating fluid can be easily sent through one segment with return by way of the other two.

Experience indicates that it is advantageous to shape the deep end of the drain in the manner in the accompanying illustration Fig. 1, which can be done in a moment with curved scissors.

It is well to fasten the drain at the margin of the wound with a ligature of fine silk or other suture material.

The outer limb of the drain is best left long (8 or 10 inches) and turned down on the lateral portion of the abdomen and arranged to protrude through the binder. A separate wad

or mop of gauze adjusted about the protruding end receives most of the drainage.

This device has been made for me in a very satisfactory manner by the Miller Rubber Company.

An additional device of great simplicity for the capillary drainage of other than abdominal wounds and particularly designed for the removal of blood and serum which may accumulate in a few hours succeeding the operation is the capillary wire drain which I here show you, Fig. 3. It is made in the shape of

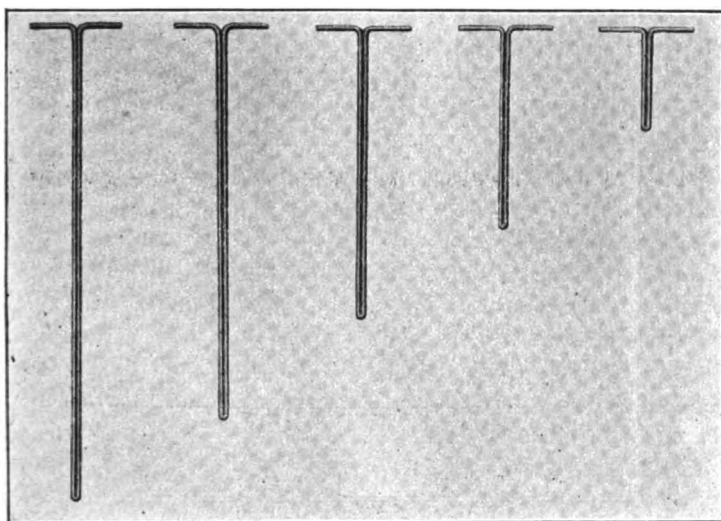


Fig. 3.

the letter T, with the vertical limb such length as may be adapted to the depth of the wound to be drained. I find myself using these varying in length from  $\frac{1}{2}$  inch to 2 inches. In a recent large goiter operation the drainage was entirely of this character, and its efficiency was attested by the amount of bloody serum which was delivered to the gauze dressing in the first twenty-four hours.

These are slipped in between the stitches after the wound is closed and leave no appreciable opening after their removal. These do not augment the scar. They may remain in the wound any length of time without causing irritation or materially retarding repair.

The efficiency of this form of drainage may be multiplied any number of times by adjusting multiple drains, *i. e.*, tucking in two, three or four of these wire Ts side by side.

This then is my plan for drainage, multiple small rubber tubes for deep drainage, particularly of the abdominal cavity, utilizing both capillary and syphonage; and single or multiple wire drains for shallow wounds involving subcutaneous and muscular structure.

I realize that I am treading on debatable ground in recommending such a departure from traditional methods; at the same time I am confident that those who try these methods herein set forth will not wish to return to the old ones.

#### *Discussion.*

Wm. Francis Honan: It certainly has been worth the trip to Albany to hear this very excellent paper and to learn of the valuable suggestion of Dr. Packard. I said to him before the meeting that I had hoped he would take up the general subject of drainage, which he rather seems to think has been definitely settled. With us it is a question whether to drain or not to drain, and if you do drain, does it do any real good? In the principal hospitals of the City of New York the questions as to drainage are: What shall we use for drainage material, shall we use rubber tubes, glass tubes or gauze? Shall we flush with little water or shall we flush with a lot of water? As a matter-of-fact, it is a subject of almost as much difference in theory and practice among surgeons as is the administration of baptism among our theological brethren, and generally with about the same results, the statistics in all cases are about the same. The tube that Dr. Packard has shown seems to me particularly valuable for drainage of the abdomen in septic conditions, or in common duct work; almost ideal, for example, in general septic peritonitis, appendicitis, with perforation or otherwise, or in a case of appendicular abscess. The practice of some of the best surgeons in the country, while almost diametrically opposite, seems to give almost similar results. In septic peritonitis, for instance, some surgeons are of the opinion that once you have removed the focus of disease the balance is thrown on the side of the leucocyte and it will do the rest; so these men wipe and clean out the wound and if they get the patient over the shock of their manipulations, about the worst they seem to get is



mural abscess, and this because the passage of septic material across a fresh cut wound necessarily means infection. Previous to 1900, before Fowler suggested his posture, the danger in general septic peritonitis was about 100 per cent., or so near that, that there was not much to the credit of the surgeon. With the placing of the patient in Fowler's position, at an angle of  $45^{\circ}$ , the fluids gravitate into the pelvis where absorption is very slow and with the introduction of Murphy's rectal saline injection to produce absorption through the rectum, the percentage has been very markedly reduced.

The next question is, and it has probably been fairly well settled by experimentation: Can we drain the peritoneal cavity at all? I doubt very much if we can, no matter where you place the drain. Now to go back a moment, a typical case is one of appendicular rupture with peritonitis, removal of what is left of the appendix, placing some sort of drain at that point, incision over the median line flushing or wiping out of the abdomen and draining down into the cul-de-sac or lower portion of the pelvis. Within a very few hours the presence of that foreign body will separate that area from the general peritoneal cavity. You do not drain the peritoneal cavity really, but you isolate and render extra-peritoneal that particular spot which presents infection and from this isolated area, with a proper drain, much fluid will come away. As I say, the cases that are wiped out and closed up, in the hands of some of the best operators, seem to get along about as well as those that are drained, according to their reports.

Now, as to technique in a case of appendicular abscess. The time is getting short, so I am going to tell you what I do in such a case. When you have removed a gangrenous appendix, wipe out the cavity, the wound looks perfectly good, but you will find that inside of 24 or 30 hours that you have a foul-smelling cavity covered with a dark or a yellowish white exudate which seems almost like that of a child's throat in diphtheria. That incision which you sewed up around the tube becomes covered in two or three days with the same kind of exudate and the whole wound breaks down with pus. I believe if you sterilize the cavity as well as possible, provide for proper drainage, you will turn that patient out of the hospital in less time than has been taken by any method I have ever used before. You have an isolated cavity which is infected,

wipe that out with a solution of formalin, just wet a sponge in a solution of formalin 1 to 250—that is, two drops to the ounce, put in one, two or three cigarette drains from which gauze has been cut off flush with the end, wet in the same solution, sew up the wound and around the drains place a collar of gauze wet in the solution, so that the drainage out of the abdomen will not appear on the wound. I change this collar next day or just as frequently as the amount of drainage demands. The result will be that in a comparatively few days the cavity, which under ordinary circumstances would suppurate and run on for some time, quickly granulates and closes up. Particular care must be taken that the wound does not contract at the skin opening, but has the same diameter throughout. The house surgeon who dresses the wounds must be instructed in this, for usually you will find they have allowed the skin or fascia to contract, giving a jug-shaped cavity which persists perhaps for a year. I am informed by the house surgeons in the hospitals with which I am connected that wounds treated in this manner heal more quickly than by any other method they have been in the habit of using.

As to this device that Dr. Packard presents, I have always been an advocate of drainage. I believe that the healing of wounds depends on perfect asepsis and perfect hemostasis. You must tie up and stop every little oozing point. Even under the best circumstances there is a certain amount of exudation of serum, which becomes under certain conditions simply a culture medium for the development of bacteria. This is obviated by using a little strip of rubber tubing, or very much better, such a device as the Doctor suggests. I have had better success since using little Michel clamps, not too close or too tight, and when the dressing is removed I always find the preliminary dressing soiled with a little blood-stained serum which has exuded between the clamps, leaving the wound in better condition for aseptic healing.

Dr. J. M. Lee: I want to say at the outset that I regard Dr. Packard's system of drainage by the use of his triplex rubber tubing to be the most practical of anything yet introduced, and I feel under personal obligations to him for its introduction. For many years I have used two rather large tubes when draining the pelvis through Douglas' pouch or two smaller tubes when draining the male bladder either through the perineal or

the suprapubic wound. I have always observed that especially in drainage of the bladder from below, with a single tube, it is attended by severe periodical pain apparently caused by lack of vent to the bladder. Owing to this defect the bladder partly fills, then the urine is expelled with painful contraction of the viscus. I believe the reason the triplex drain works so beautifully is because vent is afforded through one of the tubes while drainage takes place through the others. This is absolutely necessary to thorough drainage.

I use gauze a little more freely than does Dr. Packard, though the objections he urges against its use are well founded. I still employ gauze in the form of the handkerchief drain; the strip or strips packed inside of the gauze handkerchief, only, should be removed two or three days after the operation and the handkerchief itself left until about the fifth day. Such a dressing is rarely needed except in septic cases or cases of hemorrhage, and Dr. Packard's tubes will, I am convinced, answer admirably in the former class of cases. In the latter condition it becomes necessary, though rarely, in the separation of extensive adhesions from the pelvic floor. If for any reason the surgeon deems it inadvisable to sew up all of the oozing surfaces, or is unable to arrest the flow of blood in any other way, the handkerchief dressing may be employed as a dam or tampon to arrest hemorrhage. If used, the objections that Dr. Packard speaks of in its removal are sure to be present unless the strips carried down inside of the handkerchief are removed first as above suggested; then, at the end of four or five days, the handkerchief itself may be taken out with much less pain though there will be some even at that late date and this, as he says, is a serious objection to its use, but in some instances it is the lesser evil and this method of dressing still retains a field in surgery.

When simple drainage is needed, I have fallen into the habit of using the cigarette drain. It is made by rolling up a sufficient amount of gauze in gutta-percha tissue to make a drain  $\frac{1}{2}$  or  $\frac{3}{4}$  of an inch in diameter. The gauze and the tissue are cut off with one stroke of the scissors so as to leave these materials, one flush with the other. Then the gutta-percha tissue is cut through so as to make openings on either side through the gutta-percha only, the same as is commonly employed in preparing rubber drains. These are not difficult to remove, and when drainage is required only for twenty-four or forty-eight hours they serve me admirably.

## POST-PARTUM HEMORRHAGE.

BY WALTER GRAY CRUMP, M. D.

No condition for which the services of the physician are needed require of him to a fuller degree the exercise of more intelligent and deliberate skill than does the management of post-partum hemorrhage.

If, in his anxiety and haste, he is careless of surgical technique, none is fraught with more serious consequences. Should he fail to meet controllable conditions with those remedies and mechanical means which experience and reason have established beyond question as applicable, he not only lays himself open for just criticism, but burdens his conscience with recollections that shall ever disturb his peace.

Probably more has been written on this subject than on any other of the many conditions and ills that afflict the flesh. To some, it may seem almost a waste of time to again consider it, for little can be added that is new or valuable. However, should my way of presenting the subject in this paper help in the saving of one life, or stimulate on the part of those present thought and discussion that shall profit any of the profession, my efforts will not have been in vain.

There is an old Irish aphorism which runs, "The best way to cure an ill is not to have it," so let us first consider some of the predisposing factors which bring about this condition, and the various means of combating them that we may, by their correction, thus militate against this alarming and most serious condition. In its broadest consideration anything which undermines the general health necessarily tends to so deplete the system as to interfere with muscular tonicity and, therefore, predisposes post-partum hemorrhage. We should, therefore, during all the months of pregnancy keep our parturients under such watchful care as to early appreciate any improper modes of life, or unharmonious adjustment to surrounding influences, and as far as possible so correct them as to maintain and build up the general health of the patient.

We naturally find post-partum hemorrhage of more frequent occurrence among the so-called "cultured" class, who have developed the nervous and emotional at the expense of

\* Read before the Medical Society of the County of Kings, September 10, 1907.

the physical. For them, we must insist on good hours, healthful exercise out-of-doors, and relief from social functions. There is also the opposite type of cases to be found among the overworked wives of our great laboring classes, who are constantly overtaxing their physicals with the multiplicity of their cares and duties. With them, we must urge that they take more rest, and harbor their strength for the ordeal to come.

One of the most common predisposing factors to post-partum hemorrhage is the wearing of tight corsets. This leads up to shallow and largely chest breathing, resulting in visceral engorgement with subsequent inertia and flaccidity. This constriction about the waist also dams the blood back into the venous channels of the lower part of the body, causing their enlargement and thus favoring flooding. Let us, therefore, instruct our pregnant women to not only dress loosely, but to practice frequently and systematically deep abdominal respiration, thus promoting complete oxidation with its simpler and less irritating end products of metabolism and facilitating their elimination. This constant rise and fall of the diaphragm also brings about in the abdominal and pelvic organs that healthful tonicity so dependent upon proper natural visceral massage. Of no less importance is the regulation of the diet during gestation, and here, as much as in any other condition—"persons often dig their graves with their teeth."

A good practice is to cut down decidedly on meats and other nitrogenous foods throughout gestation and during the last two months to enforce this rigorously, insisting that the patient shall always stop eating just before the appetite is satisfied.

This not only helps to avoid the dread toxemias of pregnancy, but prevents overdevelopment of the fetus, which we find so common a cause of dystocia and which necessarily courts increased hemorrhage.

The examination of all parturients should include careful and systematic pelvimetry, and being thus forewarned we may readily forearm ourselves in those cases where abnormal pelves are the cause of distocia.

Among the most common pathological predisposing conditions are hemophilia, albuminuria, malarial poison, alcoholism and pelvic inflammatory conditions.

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Whenever any of these are present, they require most careful pre-partum treatment and correction and afford an excellent opportunity for us as homeopaths, to demonstrate the superiority of good symptomatic prescribing over the stimulating, depleting, purging methods of the dominant school.

In the consideration of post-partum hemorrhage, let us include all those cases of bleeding, following delivery of the child, in which the amount of blood lost exceeds 400 c. c. The amount that can be lost and the patient recover, is indefinite and is influenced by so many factors that we cannot lay down any firm or fast rule regarding it.

We all know that about 1-13th the body weight is blood, therefore, in a woman weighing 130 pounds, the entire amount of blood would be about  $6\frac{1}{2}$  quarts. The healthy non-pregnant individual may lose 1-3 the entire blood in body and generally live. When  $\frac{1}{2}$  the total amount is lost, they generally die. In the pregnant woman, the amount of blood is somewhat increased proportionately.

At times, the loss of even 1,200 c. c. will result in death, and again 3,000 c. c. may escape, and the patient finally recover. Anything over 1,500 c. c. should be considered a serious hemorrhage.

The loss of a large amount of blood by depleting the system renders it far less resistant to infection.

Although the great Humorist, Mark Twain, has said—"There are lies, damn lies and statistics"—let us see what statistics will establish as to the frequency of post-partum hemorrhage:

Lusk claim sthat it occurs to a slight degree in every fifty cases; to a severe degree, once in every thousand cases, and is fatal once in every five thousand cases.

My personal experience would lead me to believe that it occurs far more frequently. The hemorrhage may come on at once, or may establish itself at a time remote from delivery, and as it delays, so does it decrease in danger. It may manifest itself outwardly, or it may collect internally, the latter being far more dangerous and difficult to handle, and is frequently not appreciated until large clots are expelled or the patient, dying, is supposed to have succumbed to heart-failure or some other condition.

Nature in the fullness of her wisdom has established in

mammalia natural conditions for preventing excessive loss of blood with the birth of the species. These provisions manifest themselves along three distinct lines:

First: Great power of contraction and retraction in the uterus.

Second: Structural changes in the blood vessels.

Third: Increased coagulability.

The non-pregnant uterus weighs from but one to one and a half ounces. At term it has attained the weight of two pounds. This great increase is largely in its musculature, the individual fibres of which increase from seven to eleven times in length, three to five times in breadth, and multiply numerically. They arrange themselves especially during the latter months of pregnancy, around the great uterine blood channels.

When we reflect upon these facts, we cannot but realize how important a rôle is played by the muscular tissue in the prevention of hemorrhage.

In the coats of the blood vessels, a thinning gradually takes place until finally at term, only the intima remains and this has become very rich and yellow elastic connective tissue. Over the placental site there generally remains a thin covering from the decidua serotima.

During the months of gestation, the blood acquires an increased ability to clot, due not only to inherent qualities, and in the uterine blood vessels, increased thrombokinasase, but also to the fact that the diminished thickness of the vessel walls facilitates diapedesis, the white corpuscles escaping and multiplying in adjacent tissues and thus mechanically help to anchor the forming clots into the mouths of the torn uterine sinuses. Nevertheless, in spite of all this fortifying of the system, we all know but too well that post-partum hemorrhage does occur.

There is no question but that by far the greater number of cases of post-partum hemorrhage are due to meddlesome interference with nature's processes on the part of the attendant. Could this last fact but be realized by all who attend confinements, many a life now being sacrificed would be spared.

There is no truer saying than, "To be a good obstetrician, one must be a good waiter," and the old axiom, "Anything that is worth doing is worth doing well," is most applicable to obstetrical practice.

He who cannot sacrifice his time cheerfully and occasionally rob himself of much needed sleep willingly, should not undertake to practice the art of obstetrics. Haste in the conduction of labor, and especially the second and third stages, is the greatest of all the exciting causes of post-partum hemorrhage.

To drag a child down through a birth canal not sufficiently infiltrated and properly dilated, cannot but be disastrous. A good rule would be to precede all instrumentation and version deliveries by the fullest possible dilatation of the parturient canal, otherwise, if the offspring is hastily dragged through, the maternal tissues will surely be lacerated and post-partum hemorrhage established.

I know of no better means of dilating the cervix and also the vagina and vulva than by means of the two-chambered distensible hydrodynamic rubber bags invented by one of your fellow practitioners, Dr. Ralph Pomeroy of this borough, which I now exhibit. These illustrations will demonstrate their use better than I can explain them by description.

Nearly all cases of post-partum hemorrhage, aside from those due to fibroids, cardiac disease, inversion and those which follow placenta previa, arrange themselves into three distinct groups:

Those due to deep tears in the birth canal.

Those caused by improper detachment or retention of the placenta or membranes.

Those occurring as the result of uterine atony, general or local.

One can often decide which type is to be dealt with by remembering the following:

In tears of birth canal, the flow of blood is steady, bright red, but not profuse, and usually precedes birth of placenta.

From placental retention, the blood escapes in gushes, is clotted and the gushes are coincident with uterine contractions.

In cases of atony, the hemorrhage is excessive and continuous, often resulting in death in a few minutes.

Tears in the birth canal frequently cannot be avoided, but as already stated, are often due to too great haste in delivery, too early rupture of the bag of waters, or instrumentation or version before full dilatation of the birth canal.

In the cervix, these tears are often so deep as to involve



the circular artery. The vagina often lacerates so deeply as to involve large pelvic blood vessels.

The bleeding begins at once after the birth of the child and, of course, will not be helped in the least by manipulation of the uterus or douching.

The way to treat post-partum hemorrhage of this type is to tie off the bleeding vessels and repair at once the lacerations.

Bleeding in this class of cases is naturally readily controlled.

Before attempting any repair, be sure to put patient in a good light and in a get-at-able position, preferably on a kitchen table (if a portable operating table is not at hand). Improvise a leg-holder out of a folded sheet, if one cannot be had. Rather lose a little more time and blood and be sure of your surgical technique, than hurriedly sew up a case only to have it die later of sepsis.

The cervix can generally be forced down and made to appear at the vulva by pressure on the fundus, when cervical tears may be readily repaired without deep manipulation. If cervix cannot be readily reached in this way, a good method is to grasp same in abdominal spongeholders and draw down.

Only plain catgut should be used. The tissue being soft, a rough non-cutting full-curved needle is by far the best, thus preventing further laceration and bleeding from needle pricks.

Where tears in cervix are deep, and especially if they involve the circular artery, the first stitch should be of large catgut, No. 4 or 5, and should be introduced well above the apex of the tear which will readily occlude these vessels and other bleeding points from above. In lacerations of cervix where post-partum hemorrhage is not present it is undoubtedly best to repair same later after involution has taken place.

In repairing vaginal lacerations, it is generally an advantage to prevent blood from the uterus flowing down over the field by tamponage of the upper vaginal segment. If necessary to do this, don't use three or four small sponges, but preferably one large one, or better still, a long strip of sterile gauze, for it is very easy to overlook one of these small sponges, which being left behind, may cause trouble.

Remember that the rectovaginal septum is only a thin membrane above the first inch, and that in repairing tears high up in the vagina, it is the easiest thing imaginable to pass the

stitch right through into the rectum and thus establish the best possible avenue for infection.

All internal lacerations should be repaired with plain catgut; external ones, with catgut silk, or silkworm gut; after which it is always well to dust with aristol which forms somewhat of a barrier to infection.

If tears extend externally, well down towards anus, it is a good plan to apply to the skin in front of anus a dam made up of a piece of gutta percha tissue, which will readily adhere to the skin, if the edge is only touched with a little chloroform immediately before applying. If this precaution is not taken, infection is often established by the passage of flatus into the wet vulva pad along which bacteria can readily travel up into the wound.

After repairing as far as possible all lacerations, the posterior vaginal wall may readily be inspected by rolling same out of vulva on fingers introduced into the rectum. Should it be found that more stitches are required, be sure to thoroughly disinfect the fingers before inserting them.

In the second great class of cases, flooding is due to retained or improperly detached secundine or placenta. In the greater proportion of these cases the cause is too early or improper practice, of Credé's maneuver.

Whenever possible to avoid it, the third stage of labor should not be terminated under fifteen minutes and if it lasts thirty, so much the better. Give the uterus plenty of time to contract and retract down upon itself before detachment of the placenta is brought about.

This wait is also very beneficial to the child, as it gets thereby a few additional ounces of blood so necessary for the establishment of its pulmonary circulation. Of course, the cord should not be cut until a short time after all pulsations cease.

The placenta usually detaches itself by either Schultz's or Duncan's method. In the latter it gradually detaches along its periphery and is accompanied by a continuous flow of a small amount of blood before the birth of the placenta. If left alone and detached naturally, or when Credé's method is properly applied, this is generally the method of its birth.

When the cord is pulled upon, or Credé is improperly applied, the fingers being gouged into the uterus at one point,

instead of grasping the entire fundus uniformly, the placenta is usually delivered by Schultz's method and being first detached centrally it appears at the vulva by its smooth internal surface. The blood accumulates behind the placenta and its birth is followed by a profuse gush of blood—don't pull on the cord, or at least, not until the placenta has left the uterus, as this not only tends to central detachment, but cups the uterus and increases the amount of hemorrhage. If the organ is flaccid, this dragging on the cord may result in partial, if not complete inversion of the organ.

We have already detailed the proper procedure in hemorrhages due to the laceration of the birth canal. Let us now consider those cases of flooding in which retained portions of the after-birth are the cause.

Make it a rule to invariably turn the placenta over as soon as it is delivered and inspect carefully its outer surface, for retained and undetached cotyledons.

Should a clean cut hole be found in membranes near the placenta, and vessels be seen running from it to the cord, probably have a retained succenturate lobe of the placenta.

The non-detachment of these cotyledons is not so often due to decidual endometritis as to improper carrying out of Credé's method of expression.

Should bleeding be from this cause, the best method of removal is by manual extraction, and this, like the removal of the retained placenta, is one of the gravest operations in obstetrical practice. It is a far more serious procedure than either version or forceps, for in these conditions, the danger of infection is far less, the forceps or hand simply entering the amniotic sac. Should infection occur, the greater part, if not all of the septic material, will soon come away with the after-birth.

Not so, when the placenta or portions of it are to be removed, for then the hand must come into direct contact with the raw, unprotected uterine surface, filled over the placental site with clots of blood which furnish a most excellent media for bacterial propagation. Should this procedure be necessary, the hand and arm after thorough disinfection, should be enclosed in a sterile obstetrical rubber glove to above the elbow. Or, if a short glove, the arm should be protected by a sterile sleeve before introducing into the uterus.

The hand is much more effective than the curette, placental forceps, or any other instrument I have yet seen in the removal of these retained portions. The introduction and removal of the hand must be with marked deliberation for precipitate manipulation may result in causing air to enter the uterus, resulting in air embolus of the uterine sinuses, which favors pulmonary embolus and tends to fatal issue.

The hand should be removed from the uterus during uterine contraction. If membranes do not entirely detach, remove all you can readily reach that appear at the vulva, and leave the rest to come away with the lochia. It is far safer to do this than to go after them.

Should bleeding persist and not respond to Credé or Breski's compression, a douche of hot sterile saline solution and adrenaline chloride at 120 degrees, or a one per cent acetic acid solution should be given, followed again by compression.

In following down the uterus with the hand after birth of the child, simply let the hand rest upon the fundus that you may be ready to act, should nature fail.

It should be the invariable rule to keep the hand constantly on the fundus from the birth of the child until the uterus is entirely emptied and retracted. The rule should be not to practice Credé's maneuver until the placenta is detached and forced down into the lower segment of the uterus, or upper part of vagina. There is always a definite indication when this has taken place in the rising up of the contracted uterus toward the navel. Then by Credé or drawing on the cord, its birth is facilitated.

Coincident with the birth of the placenta, we pass through the most dangerous stage of childbirth, so far as the mother is concerned, and the period when flooding is most apt to occur.

Should it establish itself, due to any of the enumerated causes, it would seem that the case is one outside of the pale of the homeopathic remedy, and to waste any time in trying to find any indications for one would be not only a great risk to the patient, but probably a useless procedure. It would seem that the proper thing to do is to carefully differentiate and thus appreciate as soon as possible the cause of the bleeding and institute at once the proper mechanical means of controlling same.

There are a few rules that are helpful along this line.

If bleeding is profuse before birth of placenta when uterus is firm, it is probably due to tears in the birth canal. Should it occur ten or fifteen minutes after birth of child, it is undoubtedly not due to lacerations. If found to be due to lacerations, repair them and thus stop the bleeding.

Profuse, continuous, non-clotted bleeding occurring after birth of placenta, uterus flabby, or if hard, presenting at one point to a soft spot, hemorrhage is due to atony. Profuse hemorrhage occurring in paroxysms and clotted usually synchronous with uterine contraction, is due to retained portions of the after-birth and requires manual extraction, uterine compression and possibly uterine pack.

Aside from the flow of blood and especially in cases of concealed hemorrhage (hæmatometria or ruptured uterus) any of the following symptoms should warn us of great loss of blood.

Small compressible pulse with increasing rapidity; drawn, pallid expression to face; cold, clammy skin; chilliness; dilated pupils with rolling of eyeballs and twitching of lids; dimmed vision; restlessness, especially of arms, which are tossed about; intense thirst; dyspnea with sighing respiration; often the air hunger becomes so great as to result in syncope or coma; fainting after second stage is often due to cerebral anemia from visceral engorgement and not to hemorrhage.

The diagnosis is only obscure when there is concealed hemorrhage, and this only occurs when uterus is improperly watched.

Primary uterine atony seldom occurs, except in cases of multiple pregnancy and hydramnion.

Should the hemorrhage be due to uterine atony, either local or general, it can very easily be appreciated, not only by the continuous and profuse flow of the blood following the birth of the placenta, but also by the external hand, which, in local atony appreciates at the placental site in the uterus a soft spot often cupped. And in general atony, that soft and almost indefinable uterus which is present in this condition.

In these cases, the proper means of controlling the hemorrhage must be early instituted, if the life of the patient is to be saved. Of course, the first thing to do is to thoroughly Credé the relaxing organ, thus forcing out the retained clots. Should this fail to establish contraction, give as soon as possi-

ble, a very hot douche of saline solution ( $120^{\circ}$ ), to which has been added adrenalin—1 ounce to 2 quarts. A 1 per cent. acetic acid solution may be used, but other styptics undoubtedly do more harm than good.

Should this fail to control the hemorrhage, Breski's bimanual method of compression should at once be resorted to and the uterus held until tonicity is established.

Should Breski's method fail, or should it be impossible to get the fundus through the abdominal wall, introduce the folded hand, properly gloved, directly into the uterine cavity, and using this as an internal splint, lift the uterus towards abdominal wall and massage briskly, keeping the hand within the uterus until contractions are firmly established. The hand thus introduced is a most excellent tampon and should be withdrawn only during a good firm uterine contraction.

Another method which should be kept in mind and which is also applicable to bleeding or the profused oozing after the removal of retained portions of the after-birth, is the tamponing of the uterus. The best material to use is a five-yard strip of folded gauze thoroughly impregnated with sterile gelatin and adrenalin. This is undoubtedly one of the most useful methods of controlling this class of hemorrhage.

The gauze should be removed slowly, a foot at a time at hour intervals, thus permitting the uterus to gradually contract and retract down upon itself.

Ergot, or preferably, ergotol, should be given in these cases of atony; the latter hypodermically, about 30 minims at a dose. Meanwhile, the uterus must be constantly compressed, for it takes from ten to twenty minutes for ergotol to act. In the meantime, the patient might readily become exsanguinated.

Rules for the use of ergot are as follows:

Never give ergot while child is in uterus, except in severe, accidental hemorrhage, or before Cæsarean section.

In high forceps, version, or manual removal of the placenta, give first dose five or ten minutes before proceeding with these manipulations:

In multiple pregnancy when the second child has reached vulva.

In hydramnion before the birth of the placenta.

In uterine myomata.

In cases presenting history of atony, or when this condition is anticipated, when head of child reaches vulva.

Also in all cases where the physician cannot remain with the patient one hour after the termination of the third stage. Should all these methods fail, compression of abdominal aorta and raising foot of bed, etc., should be thought of.

In placenta previa, the lower uterine segment not having the contractive and retractive power of the fundus, post-partum hemorrhage may result from lack of constriction of at placental site.

In all these cases it would, therefore, be well to tampon. The best method of applying this is to take a sterile white silk handkerchief, or square of sterile gauze, sew end of gauze strip to centre of this and carry well up against fundus. Then pack uterine cavity full of gauze inside the handkerchief. When this is removed slowly from time to time, it does not detach the clots and establish oozing. With removal of last few inches, the handkerchief is readily drawn out. Silk, by not being readily absorptive, is more effectual in stopping the hemorrhage than gauze.

Cases of hemophilia from time to time are encountered. They may be anticipated by getting on pre-partum examination the history of excessive bleeding from slight wounds, tooth extraction, etc. These cases, besides the homeopathic remedy, should be given for a week or so before delivery doses of calomel chloride grains \* \* \* every six hours. This as in cases of extreme jaundice increases the coagulability of the blood. In post-partum hemorrhage following inversion replace the organ as soon as possible and tampon.

There is very little danger of primary post-partum hemorrhage after the first hour from termination of delivery, but secondary bleeding may readily occur.

After a severe post-partum hemorrhage the accoucheur should remain in constant attendance for at least three hours, keeping constantly on the alert for its recurrence and instituting measures to prevent same.

The patient should be kept absolutely quiet and on the back—not even the immediate members should be permitted to see her for at least three hours. An abdominal binder should be applied snugly as soon as possible after labor has terminated. This promotes inactivity of the abdominal and pelvic organs

and favors clotting at bleeding points. It also permits visceral engorgement.

Frequently interrogate the fundus and massage from time to time. Should there be signs of undue softening, Credé vigorously. After each uterine manipulation change vulva pad, for this should be kept as dry as possible, otherwise germs from bedclothes or flatus may readily gain access to pad, and as they travel rapidly through a wet media, easily reach the birth canal of the patient. Occasionally massage breasts, as this promotes uterine contraction.

How shall the acute anemia be treated?

First of all be positive that all active bleeding is controlled. If the amount of blood lost has been very great and the heart is whipping away its strength from lack of circulatory tension, then, if must establish immediate results to prevent death, intravenous infusion of salt-sugar solution is indicated and should be introduced at 110° to 115° directly into the circulation through the medium cephalic vein. We must ever bear in mind the fact that the lowering of the circulatory tension favors the cloth formation at the bleeding points and transfusion may wash this away and re-establish hemorrhage—so if bleeding has been from uterine cavity, even though now under control, the transfusion should be applied before the solution is introduced. If hemorrhage has been from lacerations, all bleeding points must first be thoroughly tied off.

Hypodermoclysis is much to be preferred, and in these cases the outer scapular region on the inner surfaces of the thighs should furnish area for introduction, otherwise you will have sore breasts to disturb your patient later.

With hypodermoclysis the fluid is taken up slowly; thus does not cause undue shock. The effect is prolonged and may be continued almost indefinitely. Should your fluid not be strictly aseptic you get abscess, not septicemia as in intravenous infusion. The arterial tension is slowly re-established and there is less danger of washing away the clots. Should you not have at hand suitable appliances for hypodermoclysis, the next best procedure is continuous colonic irrigation.

While busy getting ready for these procedures many other things may be done to meet alarming symptoms—one of the most effectual being temporary displacement of the blood. Raise foot of bed. Bandage legs from foot up. These, if quite snug, should be removed in not more than two hours.



One may stimulate, but also only after hemorrhage has been permanently arrested. Just now, adrenaline chloride seems to be the greatest favorite. When used, it should be diluted to 1 to 10,000, otherwise get such intense ischemia as to interfere with the health of the tissues where introduced.

Very hot water with a little brandy, taken in sips, is one of the best circulatory stimulants and also relieves somewhat the distressing thirst.

Hot water bags should be placed about the patient—one to the precordia.

When in extremis, oxygen may be administered. Electricity may be applied to precordia and pressure on chest wall with each respiration. If patient survives, the subsequent anemia may be benefited by constant deep respiration while awake. Frequent change of position from side to side. Diet should be nutritious and easily assimilated—for a time it may be well to predigest it partly. Bovine Hemaboloids, but better than all, veal broth will help the system to replenish the lost blood.

The careful and conscientious physician will have at his finger ends the routine to follow in these cases and will always go to his obstetrical patients fully prepared for meeting such emergencies should they occur, without undue loss of time.

In closing, let me mention a few things not to do:

Never hurry a case unless the life of mother or child demands it.

Never get careless about your surgical technique.

Don't rupture bag of waters until cervix is fully dilated.

Don't give chloroform in room where gas is burning unless you have good ventilation; the generated substances are very irritating to bronchial mucous membrane.

Don't turn patient on side for at least six hours unless knees are tied together and a snug vulva pad is applied, otherwise may get air drawn into canal with embolia, sepsis, or both.

Don't use instruments unless necessary.

Never give a douche unless absolutely indicated.

Don't use ice—it can never be sterilized.

Don't use styptics.

Don't apply instruments or do versions until full dilatation of cervical canal.

Don't make traction on cord before detachment of placenta.

Don't remove hand from fundus from time of birth of child until uterus is fully contracted and retracted.

It is hoped that this paper may stimulate open criticism and free discussion, for, as there are "many roads that lead to Rome," so also are there many ways of combating post-partum hemorrhage. Let us know each other's methods and results, for thus may the encircling gloom which still enshrouds medical and surgical practices be dispelled.

THE SYMPTOMS, DIAGNOSIS, AND TREATMENT  
OF TUBAL GESTATION IN THE EARLY WEEKS.

BY WALTER TATE, M. D.

The comparative frequency with which cases of tubal gestation are met with and the obscure nature of the symptoms in a certain number of the cases are sufficient reasons for making this interesting form of pregnancy the subject of a short criticism. In order to give some idea of the frequency of this disease, it may be mentioned that during the fourteen years—from 1892 to 1905—152 cases of tubal gestation were treated in the gynecological ward of St. Thomas's Hospital. It would also appear that there is an increasing frequency of this form of gestation, for whereas there were only fifty-five cases during the first period of seven years, there were as many as ninety-seven cases during the second period. In the large proportion of cases of tubal gestation, symptoms usually commence before the tenth week of pregnancy, the most common period being from the third to the eighth weeks. The onset of symptoms is usually an indication of some change taking place in the gestation sac. This may be due to hemorrhage occurring within the tube with the formation of a tubal mole, or the change may be the result of rupture of the tube wall, or hemorrhage—with or without escape of the ovum—through the outer end of the tube. With very few exceptions no symptoms occur until one or other of these accidents has taken place.

The group of symptoms which can be described as typical of this complaint are as follows: The patient, who has missed one or two periods, is suddenly seized with severe pain in the lower part of the abdomen, which may be accompanied by some faintness, and is followed by a hemorrhagic vaginal discharge. The patient probably goes to bed; as the pain soon subsides, she may get up in a day or two feeling fairly well. Soon after getting about again she has a second more severe attack of pain, with signs of faintness, and the nature of the case becomes evident.

Unfortunately, in many of the cases the symptoms are not nearly so definite, and a correct diagnosis is often difficult. Special attention must be drawn to two symptoms which are invariably present in cases of this kind. These are irregular

hemorrhage and attacks of abdominal pain. Two other symptoms which are present in a large number of cases are missed or delayed menstruation, and signs of faintness and collapse accompanying the attacks of pain. In one case collapse may be a very prominent symptom; in another pain or hemorrhage may be the most marked feature of the case.

A few remarks must now be made about each of these symptoms. First, with regard to amenorrhea, it may be said that whereas absence of menstruation is a most important and almost constant feature in cases of intrauterine gestation, it is by no means a necessary sign of extrauterine gestation. The late Dr. Hamilton Bell, in an admirable analysis of a series of eighty-eight cases of tubal gestation which occurred under his observation at St. Thomas's Hospital, found a distinct history of amenorrhea in only 56 per cent. of the cases. In the remaining 44 per cent. the first symptoms occurred either in the interval between two menstrual periods or practically coincided with the onset of a period. The absence of amenorrhea, therefore, must not be looked upon as any ground for excluding pregnancy in the tube. Attacks of pain, often recurrent, are invariably present. The pain is situated in the lower part of the abdomen, and is usually unilateral, and referred to the right or left ovarian region. It is generally severe, and often the patient will place her finger on the exact spot. Sometimes the situation of the pain is less definite, and in one case the patient referred the pain to the epigastrium. The pain in a certain number of cases is accompanied by vomiting and faintness. A rather striking feature in some cases is that, although the patient may be seized with severe pain and some faintness, and may have to take to her bed, the pain may very quickly subside, and after a day or two she may be up and doing her work again, quite unaware that there is anything seriously wrong, till another more severe attack compels her to seek medical advice. The recurrent character of the attacks must be specially emphasized. What is the significance of the pain? In one class of case the pain is due to hemorrhage within the tube, causing distention of the tube and possibly contractions of the tube wall. In other cases the pain is due to sudden or gradual escape of blood into the peritoneal cavity, where tubal abortion or rupture of the tube has taken place. Where the attacks of pain are recurrent, there seems reason

to believe that the ovum is still within the tube, and that its presence exposes the patient to the danger of further attacks of hemorrhage through the open fimbriated end. The presence of a hemorrhagic discharge from the vagina is a very important and valuable symptom. It may precede by some days, or even a week or two, the onset of the pain, but often it follows the attack of pain. The discharge, as a rule, is moderate in amount and reddish-brown in color. Sometimes, however, it is much more profuse and bright red, and exceptionally the discharge may be dark colored and highly offensive. It is known that a decidual cast from the uterus is shed at some time in the course of a tubal gestation, but in only a very few of the cases is the expulsion of this cast actually observed. This positive evidence of tubal pregnancy is available in only about 10 to 15 per cent. of the cases.

Signs of faintness and collapse are present in a certain number of the cases, but not by any means in all. These two symptoms depend on the severity of the pain and the amount and suddenness of the internal hemorrhage. A history of faintness does not invariably signify the occurrence of internal bleeding.

Unless the medical attendant is present soon after the attack and observes the condition of the patient, it is possible to be misled. The patient may have fainted on account of the severity of the pain. If so the color soon returns to the face after the pain has subsided. When, however, the fainting and collapse are due to internal bleeding the pallor persists after the severe pain has subsided. One must, therefore, look upon persistent pallor as a strong indication of internal hemorrhage, when the other symptoms are suggestive of gestation in the tube.

Changes in the breast are rarely present in cases of tubal gestation, seeing that the majority of these cases come under observation at some period between the third and eighth week of gestation, and during these early weeks the breast signs are rarely distinctive.

One may divide cases of tubal gestation into two classes. In the first, which may be described as the acute fulminating cases, the patient without any premonitory symptom is suddenly seized with acute abdominal pain, accompanied by faintness and collapse, together with vomiting. In this class there

is a large effusion of blood into the general peritoneal cavity. In the second class, which is by far the more common variety, the patient has an attack of abdominal pain, possibly preceded by some irregular hemorrhage; there may or may not be a little faintness at the time. These symptoms, however, subside, though the hemorrhagic discharge probably persists, and within a few days, or possibly a week or two, the patient has a more severe attack in which the evidence of internal bleeding may become more marked.

The physical signs met with in cases of tubal pregnancy depend on the amount of hemorrhage and the rapidity with which the bleeding occurs. In the fulminating variety, where the hemorrhage is very sudden and excessive, if the patient is seen within a few hours of the lesion, the marked pallor is at once apparent, together with the small rapid pulse and rather shallow respirations. The abdomen is a little distended, and there is some tenderness below the level of the umbilicus. There is nothing to be felt on palpation except a little resistance over the tender area, but percussion will give evidence of dullness in the flanks and a little dullness above the pubes, the bladder having been emptied by catheter to exclude this possible source of error. On vaginal examination in this variety the signs are again not very definite. The uterus will almost certainly be found lying in front and a little enlarged. Some fullness will be felt in the pouch of Douglas, and it is possible that an ill-defined soft swelling may be made out in the right or left posterior quarter of the pelvis in the situation of the enlarged tube. One may, however, be unable to define any swelling on vaginal examination. It is needless to say that the examination of a patient under the circumstances mentioned must be carried out with extreme care and gentleness, for fear of causing further bleeding. The two important signs to notice in these cases are pallor and the presence of free fluid in the abdomen.

Next, we will suppose the initial symptoms are not so severe, there being no evidence of internal bleeding, as shown by the absence of collapse and any marked pallor. At first the nature of the case may not be apparent; but if the patient is examined within forty-eight hours or so the blood effused may have become encysted, forming a pelvic hematocoele. On abdominal examination a swelling will be found rising up into the hypo-

gastrium for a variable distance towards the umbilicus. This swelling is tender and somewhat elastic, and is dull on percussion. Per vaginam, the uterus is found somewhat enlarged, pushed forward behind the pubes, and the collection of blood forms an elastic swelling filling up the pelvis and bulging down the posterior fornix. In such a case as this the blood has probably escaped more slowly from the damaged tube, and has gravitated into the pelvis. The effusion of blood into the pelvis has become shut off by matting of the intestines above it, which form a roof to the hematocele.

In a third class of case we find a patient who may or may not have missed a period, gives a history of recurrent attacks of pain often increasing in severity with a persistent or intermittent hemorrhagic discharge. There is, however, no sign of any faintness. In such a case the recurrent attacks of pain may be associated with hemorrhage within the Fallopian tube causing distention, or small hemorrhages round the fimbriated end of the tube becoming localized, which gives rise to the condition known as peritubal hematocele. There is, however, no copious hemorrhage into the general peritoneal cavity, nor is there any large effusion into the pelvis.

In such cases some tenderness and resistance will probably be made out in the lower part of the abdomen to the right or left of the middle line. Bimanually the uterus will be found to be enlarged, pushed forwards, and not infrequently displaced to one side. A swelling of unequal consistence, partly elastic and partly firm, will be felt in the right or left posterior quarter of the pelvis. This swelling is somewhat adherent to the uterus, but is capable of a considerable amount of mobility. It may be the size of a duck's egg or larger. In these cases the posterior vaginal wall is not bulged down and the appendages of the opposite side are usually quite normal.

In discussing the clinical history of cases of gestation in the Fallopian tube no mention has been made of salpingitis as an antecedent in these cases, nor has any importance been attached to the fact that in certain cases long periods of sterility may have preceded the occurrence of a tubal pregnancy. Although sterility may have been present in a few cases, it is not of sufficient frequency to be of diagnostic value. So far as salpingitis is concerned, the knowledge gained from the operative records at St. Thomas's Hospital goes to show that, with the

exception of one or two cases, salpingitis plays no part whatever in predisposing to tubal pregnancy. On *a priori* grounds this is what one would expect. For the embedding of the ovum in the uterus we know that a healthy mucous membrane is essential. There is no reason to suppose that in the case of the Fallopian tube any different condition prevails.

In few diseases is a careful and accurate history of more importance than in cases of tubal pregnancy. Errors in diagnosis will certainly occur unless special attention is paid to the history of the case and the onset of symptoms. The two most common errors are mistaking the condition for one of pelvic inflammation, or for an ordinary miscarriage.

In the majority of cases of pelvic inflammation there is a history of some past gonorrheal infection, or the onset of the symptoms follows soon after a miscarriage or confinement, or some other form of septic infection. There is not any history of a missed period or delayed menstruation, and usually there is no accompanying hemorrhagic discharge of dark brownish red color which is so characteristic of tubal pregnancy. The temperature, moreover, is raised in pelvic peritonitis, and there is no evidence of pallor or faintness.

With regard to the diagnosis from ordinary miscarriage, the only cases of tubal gestation which are likely to be mistaken for this are those in which the hemorrhage is unusually severe and in which sufficient attention has not been paid to the other symptoms present. The pain in case of miscarriage usually precedes or accompanies the hemorrhage, and ceases after the expulsion of the ovum. The pain is usually felt in the sacral region or in the hypogastrium. In tubal gestation the pain is nearly always unilateral; it may occur with the hemorrhage, but the severity of the pain is greater and the attacks are recurrent. There is also the important evidence that on vaginal examination in cases of ordinary miscarriage there is only the one median uterine tumor, whereas in tubal pregnancy causing symptoms there is the uterine tumor, and also a second lateral swelling of greater or less size, due to the enlarged tube with hemorrhage around it.

It is well always to remember that where irregular hemorrhage comes on suddenly in a young married woman in the child-bearing period, without any previous history of menorrhagia, in cases where carcinoma of the cervix can be excluded,

pregnancy should be thought of as a possibility, whether or no there is any history of amenorrhea. Having this possible diagnosis before one, it then becomes necessary to decide whether the pregnancy is intrauterine or extrauterine. The character and situation of the pain is of value.

The treatment of these cases must depend on the conditions present in each individual case. In the earlier part of this paper three classes of cases were referred to. We must be guided in our treatment by considering what is the least risk to the patient in each of these classes.

In the first class—the fulminating variety, where the patient is collapsed and the pelvis and lower abdomen is full of blood—it is our duty to advise immediate operation and to save the patient from the risk of further bleeding. It may be contended that operating on a patient collapsed from hemorrhage is a very serious undertaking; but as a rule at the time the patient is seen the hemorrhage has ceased, and if it has not ceased there is all the more reason for not delaying operation. The operation undertaken at this period is exceedingly simple, and takes a very short time. After opening the abdomen the hand is at once passed down to the side on which the tube has ruptured, and the appendages of that side secured with ligature. The removal of the blood from the pelvis and abdominal cavity and subsequent lavage of the abdominal cavity with warm saline solution is usually followed by marked improvement in the condition of the patient, provided too much time is not spent on this proceeding.

In the second class, where one does not see the patient till a pelvic hematocoele has formed, the treatment to a certain extent depends on the time that has elapsed between the severe attack of pain and the examination of the patient. If the severe attack of pain is of recent origin, it is still one's duty to advise operation, as at this period there is a very definite risk of another attack of pain with more severe hemorrhage. Moreover, when surgical treatment is carried out within a few days of the onset, the adhesions formed are readily separated, the blood effused can be completely removed, the operative risk is extremely small, and the result in such cases is highly satisfactory. In the event of the patient not being seen or the condition diagnosed till ten days or more after the attack of pain causing the effusion of blood, provided the



patient has kept free from pain during this interval, one may safely advise an expectant treatment, the patient being kept at absolute rest in bed. There is good reason to believe that in such a case as this the ovum has escaped through the open fimbriated end of the tube at the time of the hemorrhage, and that the Fallopian tube has contracted down after evacuation of its contents. Under these circumstances the risk of further internal bleeding is very slight, and there is a very fair chance of the early ovum, together with the effused blood, being gradually and completely absorbed. In a few cases suppuration may take place in the hematocele, and incision and drainage per vaginam may become necessary. Gradual absorption of a pelvic hematocele does not always occur, even though the patient may be kept under the most favorable conditions. It sometimes happens that further attacks of pain occur, with increase in size of the abdominal swelling. This enlargement of the hematocele means further hemorrhage into the sac, and in such cases it is usually found that the tubal mole is still retained within the tube, and remains a source of danger to the patient. Abdominal section, with removal of the affected tube and blood clot, will then become necessary.

In the third and last type of case, in which the patient has repeated attacks of pain, together with irregular hemorrhagic discharge, but without any collapse or faintness, and where a unilateral swelling is found in the situation of the tube and ovary, it is always advisable to advise abdominal section, as there is grave risk of rupture of the gestation sac, or of severe hemorrhage occurring through the fimbriated end of the tube. If the operation is performed while there is a comparatively small localized swelling in the situation of the tube there is, under present conditions of surgery, the least possible risk. If, however, the case is left and sudden severe hemorrhage into the peritoneal cavity occurs later, operative interference may become necessary when the condition of the patient is far less favorable.

To sum up, one may say that operative treatment is indicated in those cases where the hemorrhage is moderate or severe and of recent origin, and also where the symptoms and physical signs indicate that the gestation sac is still contained within the tube. It is safe, however, to wait and watch the patient in cases where a hematocele has already formed, and where, after the initial attack of pain, the patient has been free from symptoms for a week or more. Under these circumstances there is a good chance of the blood becoming completely absorbed, and no serious risk is run by following an expectant treatment.

## FRACTURE OF SKULL—THREE CASES.

BY T. FIASCHI, M. D.

1st Case.—An Italian sailor, 18 years old, who, whilst heaving at the capstan, was struck on the head by one of the levers which had violently recoiled, owing to the pawls having lost their hold. On July 4th, 1907, was admitted to the hospital unconscious, with a wound over the left parietal area, which was bleeding freely. Had twitching over the right side of face; pupils equal; had lateral nystagmus. The wound was about one inch and a half in length, and no positive evidence of fracture, but owing to the severe condition of the blow, I decided to explore.

Under chloroform the wound was enlarged, and a large depressed fracture was found almost at the junction of frontal and parietal bones, close to the craniometric point stephanion superior. I kept incising the skull anteriorly and posteriorly until almost the whole line of the suture was exposed. The depression was only in the centre in the point above mentioned, and there a true comminuted depressed fracture of the gutter type was present for about one inch and a half; this tapered off on each side in two long fissured fractures, one running anteriorly towards the middle of frontal bone, the other posteriorly towards occiput. I followed the latter with the incision to its end, but not the former, as it appeared to dwindle away into a fine linear fissure. The depressed fragments were on the lower side about a quarter of an inch deep. I applied a half inch trephine crown on the upper fragment, and with an elevator was easily able to lift all the depressed portions. Considerable hemorrhage oozed up from some of the smaller branches of the middle meningeal artery, but having ascertained that no epidural clot was present I closed the wound. Patient remained unconscious for nearly 48 hours, and when he gradually became conscious was aphasic and had slight paretis of right hand. On July 11th, six days after accident and operation, the aphasia completely disappeared. Since has been doing well, complaining only for a time of diplopia, but this passed, and is now quite well.

2d Case.—Another Italian seaman, victim of the same capstan accident as the other. The lever struck him on the right

parietal region. Was unconscious for a while, but soon recovered, and was able to walk into the casualty room. No wound; no vomiting; eyes normal; on examining the skull I found that over the right parietal eminence there was a circular swelling about two inches in diameter, cupped in the centre. If the finger was pressed hard over this circular rim, so as to decompress the swollen scalp, I was able to feel a marked cupping of the skull one inch and a half in diameter and fully half an inch deep. Evidently there was a pond fracture, and though the patient presented no symptoms, in view of possible remote developments, I decided to elevate. I reflected a horse-shoe flap and found a really beautiful cupping of the skull in which the fracture was hardly visible, appearing as very fine lines all round the margin of the cup. I applied a half inch trephine crown anteriorly and superiorly, and passed a strong elevator beneath the deepest part of the cup, but although I used all my force I could not raise the depression. Evidently the mechanics of the arch were against me. To obviate that I made with a chisel a fissure right through both tables of the antero-posterior diameter of the cup. I then, with the greatest ease, pressing alternately on the two halves of the cup, was able to bring back the parietal eminence to its normal curve. Before closing the wound I carefully searched through the trephine opening with a probe for depressed portions of the inner table or speculæ, but found none. In this case I did not replace the trephine button. The patient made a good recovery, and has been quite well since, but complained of some headache over the seat of the fracture. Memory good; otherwise is quite well.

3d Case.—A young man, 21, admitted in the hospital on the morning of July 12th last. Patient was at the bottom of a ship's hold and a piece of coal about six inches square fell from the deck on his head. No loss of consciousness; no vomiting; pulse weak; but was expectorating small quantities of blood. On the left side of head in the parietal region a lacero-contused wound was present; skull was not exposed, but on probing some unevenness in the surface of the bones could be felt. Decided to explore and, under chloroform, I enlarged the original wound and found a fissured fracture,  $4\frac{1}{2}$  inches long, running from the left parietal eminence to the frontal bone. There it divided in two fissures, one of which

ran across the forehead, the other in the orbit. These I did not follow. At the posterior end the fissure opened up in two branches, and at this angle the lower fragment was depressed. A half-inch trephine was applied above, and the depressed fragment was easily elevated. A small amount of epidural blood-clot was present at the site of depression. This was removed. Wound was sutured as usual. Patient made an uninterrupted recovery, and is quite well. Mind clear, memory good, no headache, no insomnia, no irritability.

Remarks.—I am presenting to you these three very common cases of surgical practice, merely to draw your attention to the fact that depressed fractures of the skull are not always very clear from outside examination, and that it is a good thing, whenever you have reason to suspect one, to make an exploratory incision. If you read the text-books of surgery you will find considerable variety in the treatment recommended for fractures of the skull. Some books are inclined to recommend non-intervention, others recommend exploratory incision in all cases of compound fracture of the skull. Text-books are conservative, and are generally a few years behind the crest wave of surgical progress, as revealed in the current newspaper surgical literature and in the actual work in hospital. Of late the majority of writers on brain and skull surgery are becoming more and more agreed as to the importance of elevating all depressed fractures, and of removing all cause of compression, whether bone or blood-clot, in cases of fracture of the skull. The reason of it is that non-intervention is so often apt to be followed by such remote consequences as persistent headache, giddiness, epilepsy, mental impairment, loss of memory, delusions, insomnia, and irritability. I have been so impressed with these remote results in the past that for a long time I have invariably explored all such cases, and am pleased with the results, and intend to continue with this method of treatment. I think it is hardly necessary in this year of grace to mention that no such exploration should be carried out without the most perfect asepsis.

The only other points of interest worth mentioning in these cases are the occurrence of aphasia in the first case. You remember how, not long ago, we were all startled by Marie's article in the *Semaine Medicale* (Vol. xxvi, page 441) advancing the iconoclastic view that the third left frontal con-

volution has no share in the function of speech. If you examine the fracture of this man you will find that it was not far off the left third frontal convolution, and that the transient modern aphasia from which he suffered was no doubt due to some pressure on it from blood effusion. So we can cling on to Broca's old localization of speech.

The other point of interest is the peculiar very pretty even pond fracture of the second case, which I have tried to mimic for you on the vulcanite ball by dipping it in warm water, pressing over it a watch-glass, and then dipping it in cold water. Am I right in calling a green-stick fracture of the valut of the skull? If you refer to Stimson's classical book on fractures you will find that his definition of green-stick fracture, infraction, bent bone, or curvature without fracture is "a fracture involving only a portion of the thickness of a long bone, and combined with a bending of the bone at the seat of fracture." I think that we are not far off it in this case. The lines of fracture at the margin were so small and fine that I hardly believe they extended across the two tables. I remember years ago having seen a similar fracture in the forehead of a boy who had been struck by a cricket ball, causing much headache. I elevated the depression and he has been well ever since. The fact that these cases are almost always met in young people is a further reason to consider them as green-stick fractures.



## TUMOR OF THE BREAST, SHOWING PECULIAR HISTOLOGICAL CHARACTERS.

BY SYDNEY JAMIESON, M. D.

E. I., 56, married, but no family, was admitted to the hospital on September 6th last, under the care of Dr. Bowker, complaining of a lump in the left breast.

History.—About two years ago she received a blow on the left breast which caused only very slight pain, but left a small hard lump behind. Until three or four weeks ago it remained small and painless, but at that time it began to increase rapidly in size, became darker in color, in parts bluish, and she began to experience some pain of a darting character

in the nipple of the breast. Occasionally a slight discharge came from the nipple. Her previous health was always good and her habits beyond reproach.

Condition of breast when seen.—Patient a strong and healthy-looking woman. At the inner side of the left breast there is a large firm purplish mass involving practically the whole of the inner half of the gland except the left upper margin. It is slightly movable on the underlying tissues. The nipple not depressed or retracted. The skin over the mass is to some extent fixed to it. No glandular enlargement is to be felt in the corresponding axilla, but one or two small glands are palpable along the border of the pectoral fold. The growth is not specially tender on manipulation. On September 11th the growth was removed by a very comprehensive excision by Dr. Bowker, and the growth was submitted to me for report.

The microscopic characters of this growth are very peculiar, and illustrate two points the importance of which should not be overlooked, viz:—(a) The difficulty one at times meets with in properly classifying a growth in accordance with the scheme of classification referred to in the text-books; and (b) the importance of examining sections from various parts of a growth before venturing an opinion as to its nature.

I have made sections from three different positions in the growth and submit the following description.

1. The characters of the growth in this position are those seen in some endotheliomata, and especially in those found in connection with the antrum of Highmore. The cells are for the most part arranged in definite alveoli with well-marked fibrous walls. In some parts the cells line the spaces and are quite flattened against their sides, but in others the cells are more epithelioid in character, and arranged in a more irregular fashion. The central portions of the alveoli are in many situations filled by a mass of material enclosing polymorphonuclear leucocytes, which has in parts undergone what appears to be a colloid transformation. From a view of this section alone one would, I think, be justified in calling the growth an endothelioma.

2. Taken from a part of the growth that appeared to be more dense in structure than elsewhere. Here the histological characters are for the most part quite different from those

just described. Over large areas of this section the cells are distinctly of the sarcomatous type, and are of all shapes and sizes, and scattered amongst them are numerous large giant-cells similar to those seen so often in the myeloid sarcomata.

3. In the sections taken from this region the sarcomatous character of the tissue is even more marked, and in addition to this there are scattered through the tissue numerous hemorrhages. The multi-nucleated masses of protoplasm in this part of the growth are particularly well seen. In some parts of the section endotheliomatous areas are seen lying side by side with areas of tissue resembling giant-celled sarcoma, and as the endothelial cells show marked degenerative changes a resemblance to deciduoma malignum is seen.



## PERFORATED GASTRIC ULCER—OPERATION—RECOVERY.

BY F. J. T. SAWKINS, M. D.

On July 8th a young woman, 21 years of age, was bending over a washtub, after a hearty breakfast of stewed lamb, etc., when she felt something give way internally, and was immediately seized with violent abdominal cramp. Two hours later she was seen by a colleague, when she had a normal pulse and temperature, and no vomiting, the only symptoms being the intense pain and on-guard condition of the abdominal muscles. She was seen again after an interval of three hours, when her condition was unchanged. She was then induced to go to a private hospital, where on her arrival she was found to be somewhat collapsed; her temperature had gone up to 100° and her pulse to 120.

Her previous history was that she had been treated some years ago for anemia, that she had suffered at odd times from pain after food, and from indigestion. She had never had hematemesis, nor for the past two years any continued vomiting; in fact she gave just the comparatively negative history that so frequently goes with chronic ulcer of the stomach, and, which, associated with an acute attack such as this girl had, is apt to suggest the correct diagnosis.

I saw her in consultation at 9 p. m. the same day. She

had just had a copious stool, had a good color, and was feeling much better. Her temperature was then  $100^{\circ}$ , and her pulse 108. There was neither vomiting nor nausea. On examination there was no evident distention, though the lower lever of the normal liver dullness was slightly encroached upon by a "cracked-pot" note. A similar note was evoked over the usual stomach area; elsewhere the abdomen was tympanitic. There was a definite on-guard condition of the recti muscles more pronounced on the left side. A very tender spot on palpation was found below the left ninth rib. No pain complained of over lower part of abdomen. On placing the right hand behind the lower left ribs and suddenly pressing forwards towards the left hand over the liver, a definite dull pain was felt by the patient. No evidence was found of free fluid in abdomen proper. In spite of the marked improvement in her condition and the fact that her bowels had acted, her immediate and past history induced me to make a diagnosis of perforated gastric ulcer, and to operate at once.

As soon as possible, therefore, an incision was made in the upper middle line, and when the peritoneum was opened some milky fluid escaped. A perforation was found under partial cover of some flakes of lymph at the cardiac end, close to the smaller curvature of the stomach, and beneath the liver. As it was impossible to bring the partially-collapsed stomach out of the wound, I cut through the left rectus, and the liver having been retracted, proceeded to sew up the hole in situ. Meantime there had been several slight gushes of fluid and gas through the perforation, and it was noted that the whole peritoneal cavity had been infected. A Lembert suture was passed across the middle of the ulcer through healthy tissue—a most important procedure, as it not only immediately closed the opening but also threw up the stomach wall into two parallel folds, thereby greatly facilitating the subsequent stitching. This was done in continuous suture with No. 1 catgut by means of a curved intestinal needle. Stab wounds were then made in each loin and gauze drains drawn through. A small incision above the pubes disclosed the fact that the pelvis was full of milky fluid. Through this opening the pelvis was washed out with warm saline solution, and then the abdomen by sluicing along both flanks till the fluid ran out clear at the higher incision over the stomach. This maneuver was much



simpler and safer than using the higher opening for cleansing purpose. The saline washed before it the stomach contents back along the paths by which they had invaded the general peritoneal cavity, and cleansed the idney-liver cul-de-sacs by a stream from below. A split rubber tube and gauze drain was placed in the pelvis. A gauze strip was adjusted over the anterior surface of the stomach and another in the lower corner of the upper abdominal wound. Both wounds were then carefully sewn up in layers, the patient placed in the perineal position, Douglas' pouch opened per vaginam, and a gauze drain introduced.

The after-treatment gave little trouble; warm water was given from the start by mouth, and then peptonized milk, liquid peptonoids, etc. A sharp attack of perihepatitis yielded quickly under antiphlogistine dressings. All the drains acted freely at first, were gradually shortened, and finally removed as the discharge lessened and then ceased.



## ROTUNDA PRACTICAL MIDWIFERY.

BY JOHN McLACHLAN, M. D.

When we heard that such a work on the above title was in preparation we were quite sure that the book would be worthy of the "Rotunda," and of the Master, Dr. E. H. Tweedy. Nor have we been disappointed. The book details the methods pursued at a particular place, and does not aim at being a systematic treatise on midwifery. Herein, indeed, lies one of its great recommendations. It is a record of fact, of what is done at the Rotunda. At the same time there are one or two points we wish to refer to.

An instrument which is new to us in the practice of midwifery is the bullet forceps, which seems to take the place the volsella has hitherto held in gynecological operations. This, we think, is a distinct improvement, as the bullet forceps is much more easily made and kept aseptic than a volsella. We are glad to see that our old friend Dr. Skinner's chloroform mask is included in the obstetrical "kit."

Now we come to the blessed words, "saving the perineum." All obstetricians are as fully agreed on the desirability of

"saving" the perineum as the average Scotchman is on the necessity of saving the "bawbees," but in the former case obstetricians are not agreed as to a method of doing so; in the latter there is no dispute. In fact, as Dr. Tweedy remarks, one has a right to be sceptical about "saving" the perineum. An excellent illustration is, however, inserted, showing how to save it. The Rotunda method seems to be to endeavor to push the head forwards against the pubes, or, in cases where the pains are violent, to resist the head's advance during a pain by direct pressure on it. Neither direct pressure on the perineum nor episiotomy are recommended. But is it always the head that tears the perineum? We doubt it. We believe that the shoulders are far more to blame in most cases than the head. We have often tried to settle this question "on the spot," but when a tear does occur it takes place so suddenly that it is difficult to be sure how exactly it was caused, more especially as one's attention is likely to be engaged with other matters.

At the Rotunda, in spite of the methods adopted, 50 per cent. of primiparæ got torn perineums to an extent that requires stitching, though perhaps students and inexperienced probationers are largely to blame for the mishap. In any case, if it is torn it should be repaired on the spot, and we always insert the stitches before the patient has recovered from chloroform, though they are not tied till afterwards.

The section on Accidental Hemorrhage is well worthy of study. "In our experience," Dr. Tweedy remarks, "it is, next to sepsis, the greatest risk a pregnant woman runs." We can fully endorse this statement, for in addition to its own special immediate dangers, there are the further risks of sepsis and post-partum hemorrhage to be eared. As is usual, accidental hemorrhage is divided into Concealed and Revealed. In regard to the treatment of the former, nothing very definite can be stated; rupture of the membranes to allow the blood to escape, followed by plugging of the vagina, "may be tried," but the concomitant degeneration of the uterine muscle makes the outlook very hopeless.

In regard to the revealed form, Dr. Tweedy is more dogmatic. Most teachers of obstetrics are fairly agreed as to the treatment. In our own student days we were taught to at once puncture the membranes, as this allowed (1) the head

to come down and block the os; (2) it relieved the tension by the escape of liquor amnii; and (3) it induced uterine contractions, which brought forward the birth and stopped the bleeding, a firm binder being also applied over the uterus to keep up the pressure. We are, of course, speaking at present of cases where the bleeding is accompanied with labor pains, i. e., the woman is in labor. When the bleeding occurs without labor pains the patient's life is in still graver peril. The late Dr. H. N. Guernsey also recommends puncture of the membranes, and for the same reasons as above. Furthermore, if the os was dilated and the head well down, but the labor was delayed, we were told to apply forceps and deliver very slowly, with a hand on the abdomen to follow the child down lest there might be a big final gush of blood—final in more senses than one, possibly. If the os was not dilated, then rapid dilatation with "bag" or fingers and application of the forceps were recommended. But never plug, we were told, as this will not stop the hemorrhage, and the woman may bleed to death in her uterus, i. e., a revealed may be transformed into a concealed hemorrhage. Now, Dr. Tweedy raises objections to all these usual methods of treatment, and, following Sir William Smyly, a former Master of the Rotunda, recommends plugging the vagina as the method. We do not profess to decide this question, and will only add that, from Dr. Tweedy's position as Master of the Rotunda, his opinions are entitled to respectful attention, even if one does pass by on the other side.

Following naturally upon hemorrhage comes the question of collapse, which Dr. Tweedy defines as "the condition that follows loss of fluid from the body." This is, no doubt, correct from the obstetrician's point of view as far as it goes, but not from the surgeon's point of view. A man may bleed to death without losing a single drop of blood, in one form of surgical shock; here the blood collects in "the splanchnic lake" or "abdominal pool," as it has been called, and to all intents and purposes is useless to the patient. Whether such a condition also forms a part of obstetrical collapse it is difficult to say. Another point worth noting is this, that when anyone "bleeds to death" they do not lose more than half the blood in the body, but the half retained is of little or no use because its bulk is too small. Hence the extreme value of saline infusion (transfusion), which is fully recognized by

Dr. Tweedy. In urgent cases we are told to infuse two pints of normal saline solution into one of the veins at the bend of the elbow, then remove the cannula, tie the vein, dress the wound, and then do what?—sit down and watch for what he calls “secondary collapse,” but what we call the certain result of a piece of inexcusable folly! In a serious case “secondary collapse” is as sure to follow such ineffective measures as night follows day, as we know to our sorrow; and, curiously enough, two pages before this Dr. Tweedy tells us why, viz., “the thirsty tissues quickly rob the blood of its added fluid, and not only that, but they take fluid from the blood with such avidity that the blood is eventually of higher specific gravity than before the infusion,” and then comes the “secondary collapse,” which may even be more dangerous than the initial collapse. All this is most true; so rapidly does it occur that it looks as if one were pouring water into a sieve, or makes one think that after all there must be some serious internal hemorrhage going on. We will not have to watch very long for “secondary collapse” under these circumstances—twenty minutes at the outside. But, curiously enough, it never seems to have occurred to Dr. Tweedy how this might be prevented. Why not, as Dr. George Burford has so eloquently taught and so successfully practiced, inject a larger quantity, say five or six pints, or even more, in the first instance? Surely that is the only rational thing to do. The cannula is in the wound; there is no need to be in a great hurry in removing it, even after five or six pints have been transfused; the pain of the wound is slight, and the passage of the warm fluid is a positive comfort to the woman. This would surely be better than the method Dr. Tweedy advises. The “secondary collapse” appears usually in half an hour, and we are told then to infuse two more pints into the same vein above the ligature, or into a vein of the other side, or into the breasts. We are then to sit for another half-hour to watch for, I suppose, tertiary collapse, and this time we are to inject a pint of hot saline fluid up the rectum. We ourselves have injected as much as five pints up the rectum and not a drop came back. So, in all, Dr. Tweedy may inject into the blood, directly or indirectly, five pints at three sittings half an hour apart. We are quite sure Dr. Burford’s method is to be preferred, both for the

comfort and safety of the patient, as well as the satisfaction of the medical attendant.

In regard to the treatment of post-partum hemorrhage, compression of the abdominal aorta is, as usual, mentioned as a possible means of stopping the severe bleeding. There is no hint or suggestion that post-partum hemorrhage resembles a burst varicose vein more than anything else, and that the "compression of the aorta" is effective probably because the softer-walled inferior vena cava is compressed at the same time.

We have already far exceeded the limits we set ourselves, but we must add a few words in regard to the toxemia of pregnancy. In our student days the kidneys had to bear the most of the blame for those conditions we nowadays include under the title of the "toxemia of pregnancy." But to-day the venue is entirely changed, and the liver has been saddled with most of the blame. Now we have considerable sympathy with the liver, and believe that in the past it has been blamed for many things of which it was entirely innocent, but in the present case we believe the imputation is just. The liver is the organ that mainly presides over metabolism, proteid as well as carbohydrate, and it is simply inadequate for the work thrown upon it. Probably a lacto-vegetarian diet would be the most suitable in such cases, thus diminishing the nitrogenous intake. "One is not surprised, then, to find that a hereditary tendency to the toxemia of pregnancy has been found by Mlle. Stein, nor that, when a woman has been subject to toxemia during one pregnancy, she is more liable to it in a succeeding pregnancy." This view of the case is a surprise to some of us, for we had always understood that, like the kidney disease that is present in eclampsia, this toxemia does not, as a rule, recur in subsequent pregnancies.

We regret that Dr. Tweedy, in common with other writers on midwifery, almost entirely ignores the question of glycosuria during pregnancy. In our opinion this is the second most serious condition from which a pregnant woman can suffer. Fortunately it seems to be a very uncommon condition, though Griessinger, Frerichs, Matthews Duncan and others record cases. In most of the recorded cases it seems to have been almost uniformly fatal to the fetus, and a very large proportion of the mothers perished as well. One wonders if it is so

very uncommon, or if it is simply "rare" because it is not looked for. It gives rise to a most obstinate form of pruritus limited to the vulva and vagina, and, if the fetus lives, probably to accidental hemorrhage during the later months of pregnancy, with its immediate attendant risk, death from hemorrhage, and its grave secondary risks, viz., sepsis and post-partum hemorrhage. So great are the risks to the mother, and so slight the chance of a fully-developed living child being born, that some obstetricians advise that the uterus should be emptied promptly as soon as the diabetic condition is pronounced. We would not go so far as that, for there may be a difference between a temporary toxemia glycosuria and a fully-developed diabetic condition, though a diabetic woman rarely conceives, and if she does, usually aborts, but in either form, the cases are most serious and anxious ones.

In regard to the treatment of eclampsia, one remark of Dr. Tweedy's surprised us not a little: "We have great faith in homeopathy." Is Dr. Tweedy also a student of homeopathy?



## SOME BRITISH CLINICS.

BY RALPH WORRALL, M. D.

St. George's Hospital,—Dakin did vaginal hysterectomy for carcinoma of the cervix, of which there had been preparatory treatment. Silk sutures were passed with a large curved pedicle needle to partly shut in the growth and also act as tractors. The pedicle needle was threaded after it had been passed, which involved some loss of time. No specula were used. The incision in mucosa was made by scissors.

The broad ligaments were clamped with ordinary pressure forceps in sections, which after the removal of the uterus and one appendage were tied, without any transfixation, with silk ligatures cut short. After all had been tied there was still some oozing, but this was disregarded. There was no suturing of either peritoneum or vagina; the vault was packed fairly firmly with gauze. Dakin has never seen any prolapse of intestines after this method.

University College Hospital.—Herbert Spencer operates in rubber gloves, boots, mask, and overalls. He uses no abdominal

retractors nor needle-holder, and yet does not appear to be disadvantaged by not doing so. H. S. is a strong advocate for total hysterectomy for myoma, even when the cervix is nulliparous, as in a large pear-shaped tumor which I saw him remove. The method adopted was that of Doyen. Silk ligatures were passed by a sharp needle to secure vessels. The appendages were not removed. There was some loss of blood from the cut vaginal walls. Saline solution was freely poured into peritoneal cavity, overflowing on to the patient's chest and abdomen. The parietal wound was closed by through-and-through silkworm gut sutures passed from within out. The anterior aponeurosis was also united by interrupted sutures of silk, no gauze drain. The vaginal wall were not united. The operation lasted one hour. Spencer next did an abdominal section for cancer of the cervix, but found the disease too extensive to admit of removal. The third case was also cancer of cervix and almost as bad, but Spencer, who has the reputation of never considering anything but the interest of the patient, went on with the operation by the method of Wertheim. A very large curved pedicle needle was used for passing the silk ligatures. The vaginal walls were divided with an electric cautery. A rubber and gauze drain were brought out in the lower angle of the abdominal wound. No vaginal drain. The pelvic peritoneum was not sutured, possibly because the patient's condition was very low. Spencer has devised an ingenious method of making diagrams of abdominal tumors by means of a pencil which writes on glass held over the tumor; the outline made is subsequently transferred to paper.

At the Royal Hospital for Children and Women, Waterloo-road, Gow did a subtotal hysterectomy for myoma, standing on right of his patient, as do almost all London gynecologists (Spencer being an exception). He uses marine sponges, makes his incision end about three inches above the pubes, uses sharp curved Hagedorn's needle and sharp handled needle for transfixation, threads his needles himself (silk ligatures), cuts the cervix straight across, leaves a mushroom pedicle at each infundibular pelvic fold, does not top-sew the peritoneal flaps, as he says they cohere without this; closes the abdominal wound by through-and-through silkworm gut sutures with buried sutures of the same for the anterior aponeurosis. G. has rarely seen any trouble from these buried sutures. The

tumor was an intramural growth undergoing necrotic change, which had caused pyemia and brought about abortion at mid-pregnancy recently. Operation lasted one hour.

Mayo Robson has no hospital appointment, but operates every morning in one of three private hospitals to which he sends his patients. The operations are done in the patient's room on a "Guyot-Greville" portable table, which enables one to dispense with sandbags in liver and kidney surgery. The dressings, ligatures, etc., are prepared in Robson's laboratory by his assistant, Dr. Forsythe, and brought to the hospital in air-tight containers. Notwithstanding the disadvantage of having to operate in an ordinary small room, in all essentials the aseptic technique is almost perfect, and this is shown in the results. For ligatures iodized catgut is used; for suturing catgut and Pagenstecher's thread, and for anterior aponeurosis 20 day chromic gut. There is only one assistant. One nurse is also present, but she rarely has anything to do. The instruments are few. Needle-holder is not used. The needles are round, curved quarter circle, held in the fingers.

Dr. Cammidge reports on the chemistry of the urine and feces in all cases before operation, and in several of the cases which I saw he diagnosed the condition without having seen the patient. The anesthetics are the gas, ether, chloroform sequence or chloroform alone. Dr. Horns is the anesthetist. He never touches the conjunctiva, but is content with the palpebral reflex and appearance of the pupil. Robson's first case was posterior gastro-jejunostomy for duodenal ulcer, which had caused much hemorrhage. There was much adhesion. R. does not use twin clamp forceps; his suturing is perfectly accurate without them. The parietal wound is united by continuous catgut in tiers, with a few points of chromic gut for the anterior aponeurosis in addition. Michel lead clamps are used for the skin. The bowels are usually opened on the fourth day by enema. In a case of choledochotomy two rubber tubes were used, one for the common duct and one for the gall-bladder. Another case of gastro-enterostomy was done for duodenal ulcer with very extensive adhesions about the pylorus, and a markedly varicose condition of the vessels of the stomach.

Appendicectomy on the third day of the second attack. Temperature normal this morning. A tumor felt in right



inguinal region. Incision at the outer border of rectus. Two fairly large vessels cut and ligatured behind rectus, which was retracted in. Abscess cavity opened into, offensive pus and two concretions evacuated; large perforation found at base of appendix involving cecum; after removal of appendix opening in cecum sutured with two layers of chromic gut; iodoform was dusted into raw surface; two rubber drainage tubes inserted with gauze wick in each; wound closed in layers as in all R.'s operations. Cellulose wool is used by R. as dressing to soak up discharges of urine, bile, etc. In another case of appendicectomy the appendix was seven inches long and was found congenitally adherent to the colon and kidney, which was movable. In another case of gastro-enterostomy a large inflammatory (?) tumor was found at the site of a duodenal ulcer.

Cholecystectomy was done for empyema of gall-bladder discharging for nine months through a sinus in the anterior axillary line opposite the tenth rib, which had remained after a large abscess had been opened in Lisbon in this situation, three weeks after sudden onset of acute symptoms. The track was traced between the muscles and peritoneum until the shrunken, thickened, almost unrecognizable gall-bladder was reached. Two rubber drainage tubes with gauze wicks placed down to right kidney pouch.

A small hydronephrosis due to mobility of the kidney torsion of the ureter was treated by nephrorrhaphy, with mattress sutures of plain and chromic gut, uniting capsule to muscles and aponeurosis.

A choledochotomy was done in a woman with acute cholangitis from stone in the common duct. Another surgeon had removed 40 gallstones seven years before. Robson found a fistulous communication between the gall-bladder and duodenum and very dense adhesions, both branches of the hepatic duct dilated, three stones in the common duct, offensive purulent bile in gall-bladder. The common duct was drained with a rubber tube; the remainder of the wound in it was closed with catgut. The wound in the duodenum was closed with catgut and Pagenstecher's thread. There was marked pancreatitis, which is always the case when the inflamed common duct goes through the head of the pancreas, which it does in 62 per cent. of all cases; in the remaining 38 per cent. it goes behind the head, and pancreatitis may be escaped.

In the next case Dr. Cammidge diagnosed floating stone in the common duct without involvement of the pancreas. This coincided with Robson's diagnosis and proved to be correct at operation; the duct went behind head of pancreas. The gall-bladder was shrunken; it was removed, and the common duct drained.

A case which had been under many doctors, with pains all over right hypochondrium, showed a very movable kidney and much tenderness over the gall-bladder. Dr. Cammidge's examination gave negative results; the gall-bladder was long, free from adhesions, and contained a large quantity of grape-seed-like stones. Cholecystotomy and nephropexy were done at the same sitting.

During the month I was attending his hospitals Robson did 22 abdominal sections and all the patients recovered.

I have already referred to the thoroughness of the aseptic technique. In operating R. seems to concentrate his attention on perfection of detail rather than upon mere rapidity. In difficult and doubtful cases nothing less than the permanent cure of the patient satisfies him, and he is never absolutely cornered.

St. Thomas's Hospital.—Tate did a total hysterectomy for multinodular myoma undergoing mucoid degeneration; the cervix was nulliparous and normal. Appendages not removed. Peritoneum completely closed. He also removed a suppurating ovarian cyst with pyosalpinx of same side, leaving the appendage of the opposite side, which was firmly adherent from old salpingitis. A third case was one of bilateral pyosalpinx.

None of these cases were drained. Tate sometimes drains either per vagina or anteriorly. He uses silk ligatures, sharp needles, no needle-holder. Broad ligaments in the last two cases were ligated with inter-locking silk ligatures in sections, and the uterine ends of the tubes were included on each side in the last loop. The parietal wound was united in layers with continuous suture of iodized catgut. Tate has seen the wound on one occasion burst open on the tenth day.

St. Bartholomew's Hospital.—I saw D'Arcy Power do three operations. 1.—Case sent in as acute intestinal obstruction, proved to be a large ovarian cyst with axial rotation of the pedicle; the base was intra-ligamentous and was ligated in sections with strong silk before cutting away the upper part

of the cyst. The parietal wound was closed in layers with silk and catgut. Second case was abscess in the right iliac fossa due to a perforation of the appendix close to the tip. The appendix was ligated and its stump covered with catgut after having been touched with acid carbolic. Third case, tumor of left groin, sent in as "enlarged glands," proved to be a femoral hernia with very thick sac and omental contents. After these had been resected the pectinal fascia was united to Poupart's ligament.

At the New Hospital for Women, Miss Aldrich Blake allowed me to see her operate on a pear-shaped myoma of the uterus with a healthy cervix. Total hysterectomy was done, leaving the left appendage. The peritoneum was closed by a puckering-up suture over a gauze vaginal pack. None of the ladies wore caps or gloves, except a cotton pair by the sponge nurse. All ligatures were of silk. The parietal wound was closed by a buried continuous silkworm gut suture for peritoneum, anterior aponeurosis and a little muscle, passed by a Reverdin's needle; horsehair for the skin. Saline solution was poured into abdominal cavity. Second Case.—Young girl with history of pain in right inguinal region and passage of blood and mucus. Menstrual history not entered on the board. The appendix was removed through an incision along outer border of rectus. Four silk ligatures were applied to meso-appendix; the appendix was ligated with the same. It appeared healthy; there were no adhesions. Appendages were not examined, and there was no note of a vaginal examination having been made. Third Case.—Dysmenorrhea and sterility, for which curettage was done and the cervix split posteriorly, the sides united separately by doubling them with interrupted sutures, thus leaving a very gaping os. In curettage the uterus was markedly pulled down by traction forceps.

At St. Mark's Hospital for Diseases of the Rectum, Dr. Fred Wallis did Whitehead's operation for hemorrhoids, also very extensive fistula in ano. The table used is A. & H.'s, and is very good for this class of work. Usually the patient is in the lateral semi-prone position, with the arm supported by an extension of the table for that purpose, which prevents the patient rolling over, and also injurious pressure on the chest.

I also saw Dr. Mummery operate for piles. When there are

not more than three he dissects up each, ligates bleeding points and sutures the pile-bed with a round-bodied needle. Dr. Mummery's modification of the sigmoidoscope is that which is generally used in London.

Dr. Swinford Edwards excised the rectum (3 inches) for a soft papillary growth embracing three-quarters of the gut, having two weeks before done an inguinal colotomy. After removal of the growth he inverted and sewed up the proximal end of the bowel, leaving the colotomy as the permanent artificial anus.

Dr. Edwards also removed hemorrhoids by the ligature method without any transfixation. The scissors used is in the form of a very handy shears.

On another day Dr. Edwards operated on another case of cancer rectum by Kraske's method, preceded a week before by abdominal section and colotomy. He has done 40 Kraske operations with one death.

In operations for hemorrhoids he has done or assisted at 5,000 cases by the ligature method without a death, and thinks this method immensely superior to any other.

At Peter's Hospital for Stone I saw Pardoe do some cystoscopy work with Casper's model, sterilized by washing and immersion in carbolic lotion 1 in 20, lubricated by glycerine. Catheters are sterilized by formaline vapor for 24 hours in apparatus called the "St. Peters." Catheters are lubricated by oil of vaseline floating on boiling water. Pardoe says that about 50 per cent. of all growths of the bladder, even if apparently innocent, recur. For prostatectomy he favors the suprapubic route for adenoma, the operation occupying about five minutes. If the growth is fibrous he operates via the perineum and tunnels through the gland with the finger.

At the London Hospital, Fenwick examined a patient with Nietze's cystoscopes and found pus dropping from the left ureter. Three weeks before he had removed the upper third of the left kidney for tubercular abscess; the remainder of the kidney at that time was normal; fever had continued, however. The previous incision, parallel to the last rib, was reopened, and the lower two-thirds of the kidney, riddled with pus collections, was removed; thick silk was the ligature material, and silk-worm gut for the through-and-through sutures which closed the wound, a space being left for a rubber drainage tube with holes along its entire length. F. operates with a forehead electric light.

## Current Comment.

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J. W. Taylor, M. D.:

From an extended experience with the different operative measures for the **treatment of backward displacements of the uterus**, I strongly recommend, in a majority of cases, the operation of shortening the round ligaments as opposed to those of vaginal or ventral fixation, or of ventral suspension of the uterus.

The following are the dangers which have led me in most cases to abandon the abdominal operations for fixation or suspension: (1) The real danger to life; (2) the fact that suture of the uterus to the abdominal wall has in some cases been followed by persistent dragging pain or uneasiness, and that the operation has finally resulted in the formation of an artificial ligamentary or muscular band such as not only to allow of secondary displacements, but also to be the apparent cause of the occasional production of an intestinal "kink" and of interference with intestinal peristalsis. (3) The danger of interference with the cause of subsequent pregnancies, an interference observed in many cases.

In carrying out the operation of shortening the round ligaments I first make a full examination under anesthesia of the uterus and appendages. I do this to determine with as much certainty as possible that the case is one of displacement only and is not complicated by any intraperitoneal disease, especially by any kind of adhesion, conditions which would contraindicate the operation. Some prolapse of one or both ovaries, even with a little enlargement, is not, however, a contraindication. The next step is to dilate and curette the uterus and to place it in a position of complete ante-version with a well-fitting pessary to support it.

The further steps of the operation are as follows. The initial incision is a small one, only of about 1 in. in length, and is just above and parallel to Poupart's ligament, with the spine of the pubes at its lower point. I attach great importance to the identification of the round ligament while still *in situ*, and my method is to grasp with dissecting forceps the whole of the

contents of the canal (with the exception of a small nerve which is usually visible under the small incision over the middle of the canal), to hold the contents upwards and inwards, and to search the lower and under side of the tissues; the round ligament is found undermost and lowest. When the round ligament has been identified, the rest of the canal contents is dropped, traction made on to the ligament to throw it into relief, the fascial attachments separated, and 3 in. or 4 in. of the ligament pulled out until the fold of peritoneum near its uterine attachment is visible.

As a part of the operation I always close the ring by stitches which take up also the round ligament until within a few lines of the spine of the pubes; the excess of round ligament is then returned into the remains of the hole in the aponeurosis and the ring is closed over it as close to the pubes as possible.

I have tabulated my results for 85 cases. There was no mortality among the whole number of cases. In about 15 or 16 cases, chiefly those operated upon at the homes of the respective patients, there was some slight suppuration; in the other cases healing by first intention was obtained. There was not in any of the 85 cases any untoward complication as the result of the operation. All except six of the cases were followed up, with the result that in 3 cases only was there any indication of relapse, and in these cases also, when last examined, the uterus was in good position. In 14 cases 19 pregnancies have followed without difficulty. There were 10 cases of early miscarriage, 1 of pregnancy which proved to be a case of twins with hydramnios, 1 case in which the child died at birth, and 2 cases which are included in the 3 mentioned above, in which partial relapse occurred after confinement. All of the 14 patients had been completely or relatively sterile before operation. Two of the 85 cases subsequently developed appendicitis, and another case subsequently had a tubal pregnancy.

The favourable results obtained are to be in part ascribed to a careful selection of suitable cases. The cases chiefly chosen were those of displacement in single or early married life, where there was no hope of pregnancy temporarily to correct it, and where the symptoms were constant, and were the cause of serious complaint. If possible, I prefer first

assure myself by pessary treatment that most of the symptoms are greatly relieved by replacement, and, further, by removal of the pessary after a few months, to find whether the symptoms return with a return of the misplacement.

Where backward displacement occurs as a result of intra-abdominal disease, the round ligament operation is absolutely contraindicated.

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B. G. Thomas, M. D.:

In the preparation of "**Gynecology and Abdominal Surgery**," Professors Kelly and Noble, in the opening words of their preface, tell us that they have been continually impressed with the intimate relationship which exists between those two subjects which constitute its title. The specialist will, rightly or wrongly, take most interest, we suspect, in the authors' descriptions of operative measures; and, after all, we cannot expect that he should not do so, for what is of most importance in a text-book of this kind is the verdict of accepted authorities on those grave responsibilities called operations. What they describe and practice is, we assume, that which they think should be practiced by others.

Dr. John G. Clark has made the best of a very grave subject, radical abdominal hysterectomy for uterine cancer. Judging from much that we have heard and read of late, we must cordially agree with Dr. Clark's suggestion that the term "radical" should be still employed without designating it by any man's name, for as now performed it consists of the best suggestions made by several surgeons.

The German practice of warning all women who are nearing the climacteric about atypical hemorrhages and pains is commended as a plan which should be instituted in this country.

There is a capital chapter by Dr. Noble on the celiotomy incision, with illustrations which really make clear what they profess to explain. One shows how the operator's left hand may be introduced through an incision to guide and protect the gall bladder whilst his right hand is employed in cutting down on that structure through a higher incision, a practice inaugurated by Kelly. Naturally, Dr. Noble, who objects to the through-and-through suture, advocates his method of sewing up the divided aponeurosis so that one edge slightly

overlaps the other; all will not agree, but his statements are clear and his arguments reasonable.

The same writer contributes the chapter on plastic operations on the perineum, vagina, and cervix; curettage of the uterus and inversion of the uterus. Like all writers on the subject, he holds his own views on that still disputed question—the etiology of prolapse. He insists that, as a matter of fact, almost all cases are caused by injuries of the perineum or sacral segment of the pelvic floor. This theory is not universally accepted. The author when preparing this chapter had not the opportunity of studying Halban and Tandler's important *Anatomie und Aetiologie der Genitalprolapse beim Weibe*, recently published, where the causation of these displacements is shown to be much more complex than is generally believed.

Dr. MacMonagle contributes an article on another subject, as to which an understanding of pelvic anatomy is of paramount importance, namely, ventral suspension of the uterus. He insists strongly on the distinction between "suspension" and "fixation," as do most modern authorities. He warns the student against the possible dangers of infection, a duty which some advocates of procedures of this class have overlooked, and he claims, as usual, good results. One of his patients, he informs us, afterwards bore triplets, safely delivered by a midwife. It is, however, difficult for the operator to calculate how much discomfort has been spared the patient who has undergone a "suspension." Many women admit that they still feel perfect relief when the uterus has fallen back into its original faulty position, whilst others complain of all the original discomfort which worried them before the operation, although the uterus remains well suspended. Dr. MacMonagle very rightly insists on long rest after an operation of this kind.

Removal of ovarian cysts is held by some surgeons, we fear, to be a trivial "stock operation," an opinion strongly to be condemned. Dr. Skene, writing on ovariectomy, lays great stress on preliminary and post-operative treatment. We question whether it is judicious to teach the use of the cautery in a work largely written for beginners, but Dr. Skene does very well to state emphatically that the competent operator seldom finds any necessity for touching the peritoneum after the tumor has been removed.



Florence N. Ward, M. D.:

In the treatment of gonorrhea in women surgical interference is not indicated in acute gonorrheal invasions in any part of the pelvis. The indications are absolute rest and the application of therapeutic measures. After the acute symptoms have subsided, if the discharge is persistent, the condition of the glands about the urethra, Skene's glands, should be investigated. If the discharge be made to exude by pressure or the maculosa of Sanger be present, the glands should be slit open and cauterized. The same treatment should be accorded to the ducts of the Bartolinian glands, as both these regions are favorite lurking places for the gonococci to start fresh infections, after having apparently been cured.

When the cervix is the seat of a primary acute infection as frequently co-exists with a urethritis, surgical intervention is contra-indicated. It is only when the acute symptoms have subsided and the chronic, thick, endocervical discharge is left, one of the most intractable and obstinate things to cure, when lesser measures have failed; longitudinal linear cauterizations with a fine galvano-cautery blade, being careful not to invade the internal os and induce stenosis, yield the best results of any treatment I know. In case the uterus is involved, in spite of many authorities advising curettage, it is to my mind absolutely contra-indicated. The only motive of a curettement is to remove the gonococci and the pathological results of their presence. In a closed cavity like the uterus we know how extremely difficult it is to evenly remove all the endometrium by a curettage; in uteri removed, for instance, for fibroids, after a curettement has been done, we see on examining the interior of the uterus how imperfectly it is usually done. If any gonococci remain, under the favoring influences of trauma and freshly denuded surfaces, an acute attack of pyosalpinx is almost sure to supervene and we have precipitated a tubal involvement, the very thing above all others to be avoided. The central thought in the treatment of gonorrheal infections in women, no matter whether it be an acute attack or the exacerbation of a chronic invasion, is to prevent involvement of the Fallopian tubes.

Pyosalpinx or tubo-ovarian abscesses are the forms of gonorrheal invasion that the gynecological surgeon most frequently

encounters, and no surgical disease requires nicer judgment in its treatment than these. Not only must the operative measures be such as to relieve the patient from her distresses, but function must be preserved, if possible. In old chronic cases where there have been repeated attacks of pelvic peritonitis from leaking pus tubes and both tubes and ovaries have degenerated into pus sacs, there is no alternative but a complete removal of the uterus and appendages by the abdominal method. The patient with these lesions is a chronic invalid, all possibility of maternity has long passed from her, and the only thought in her case is to relieve her from her invalidism and convert her into an active member of society again. In these cases the best clinical results have been attained by the removal of the uterus at the same time that the appendages are ablated, as it is an infected organ, simply a focus for the gonococcus and the elaboration of its toxins.

As the result of bacteriological examinations, two steps in the technique of abdominal operations for pyosalpinx are no longer considered, namely flushing and drainage. These two procedures that were at one time considered so essential to the successful outcome of the cases have been found to be unnecessary, probably due to the fact that the pus collections are sterile and that the focus of infection is removed by sponging. The omission of drainage has materially simplified and shortened the after-treatment, patients now recovering as quickly after an operation for pus tubes as for the removal of an ovarian cyst. Ten years ago, Péan and Segond of Paris, Doyen of Rheims, Landau of Berlin, brought about the first successful treatment of pyosalpinx when they performed pan-vaginal hysterectomy. To-day no such radical measures are found necessary, however, in all cases of pyosalpinx. In comparatively recent cases and in young women, conservation of function should form a large element in shaping the surgical decision. Vaginal incision and drainage are applicable to a certain number of these cases. In an acute attack of pyosalpinx, if possible, it is best to wait until the intensity of the acute process has subsided, knowing that the tendency of this infection to remain local and the ability of Nature to wall off the abscess from the general peritoneal cavity.

The vaginal route is particularly applicable in those cases

where the tube has dropped into Douglas' cul-de-sac and there is the characteristic bulging of the posterior vaginal fornix, rendering it more accessible to the manipulations from below. In old cases, where the tubes are fixed high up in the pelvis, where there are dense adhesions and several pockets of pus, this method is not advisable. The only hope of success in these cases is the thorough evacuation of the pus and the establishment of good drainage.

The technique that I have employed most successfully has been as follows: The cervix is seized with strong traction forceps and drawn downward and forward, the posterior vaginal fornix is incised transversely close to the cervix, the peritoneum is next entered. The peritoneal and vaginal incisions are both enlarged to fully two inches, as the success of this measure depends upon the large incision affording free drainage. The finger is then introduced, adhesions separated, the abscess cavity or cavities thoroughly opened. After which it is sponged out and packed firmly with iodoform gauze, the ends protruding into the vagina, which is also packed. This dressing is permitted to remain for five days, when it is removed, the vagina cleansed, a light dressing re-applied with the patient in Sims' position and with Sims' speculum, to maintain the vaginal incision patulous, for several days longer. This method has been very satisfactory in young women and recent cases, particularly in unilateral involvement. I have followed these cases in their after-course with much interest, and in the majority of the cases have noted freedom from pain and the gradual disappearance of adhesions from the pelvis and no necessity for further operative measures. Should pain again supervene and acute symptoms arise, showing recrudescence of the process on the same side or an acute infection in the other tube, then abdominal section and more radical measures are indicated.

♦ ♦

J. C. Fairbairn, M. D.:

I will describe a case of **acute purulent salpingitis** in which the signs markedly simulated those of ruptured ectopic pregnancy.

An unmarried girl of 23 was found in a fainting condition in the street and brought by the police to St. Thomas's Hos-

pital. On admission she had regained consciousness and gave the following history. Having previously been regular she had missed her last period which was three weeks overdue, and on the patient's admission there was possibility of a purely physiological cause. For the six previous days she had had pains in the hypogastrium, and a sanguineous vaginal discharge, while on the night of admission, while walking in the street, she had been seized with severe pain and fainted. When I saw her an hour after admission, there was no marked pallor, and the pulse, of 108 per minute, was of fair volume and strength; temperature 99.6°. There was slight abdominal distention, but nothing could be felt on palpation, and there was no dullness on percussion. There was present a sign very distinctive of tubal bleeding, viz., marked abdominal tenderness just above the pelvic brim. Nothing abnormal could be felt bimanually. The clinical history, coupled with the suprapubic tenderness, pointing so strongly to the probability of a leaking tube, prompted immediate operation.

On opening the abdomen no blood was present, the small intestine was injected, and on passing the hand into the pelvis, a little fluid, apparently pus, was seen. On bringing the left tube into the wound for inspection, pus was seen dropping from the fimbriated end. Its fimbriæ were edematous and deeply injected, and the tube was completely removed, the uterine end being resected. The right tube being in a precisely similar condition, was similarly treated, both ovaries being left. The patient was discharged within three weeks.

The tubes, on examination, were free of adhesions, soft and pliable, no thickening of the walls; the mucosa slightly swollen and edematous. Both contained creamy pus, which on examination showed pus cells, no micro-organisms, and the cultures were sterile. In commenting on this most instructive case, I would point out that many of the cardinal symptoms of ruptured ectopic gestation were present; the patient having run the risk of impregnation, was three weeks over her time for menstruation, and had had attacks of abdominal pain with metrorrhagia, culminating in a fainting attack. The one thing missing was the one least often elicited, the passage of a decidual cast.

When first brought to hospital by the police, shortly after

the fainting attack, her appearance was much more like that of a ruptured ectopic gestation than when I saw her later. By that time she had so far recovered it was evident she was not still bleeding. Considerable reliance was placed on the supra-pubic tenderness, and the safest course was to explore. Despite the negative bacteriological examination, the most likely explanation of the case is that an endometritis of mixed gonorrheal and pyogenic origin had been the starting point of the salpingitis, and that the metrorrhagia was due to the endometritis. The attacks of abdominal pain were caused by the spread of infection to the fimbriated end of the tube, and the acute attack of pain which caused fainting was accounted for by the dripping of pus into the peritoneal cavity.

Finally, the infectivity of the pus was of a very low order, as shown by the trifling peritoneal reaction and by the fact that cultures taken from the pus in the tube proved sterile.



T. R. Pooley, M. D.:

Given a pregnant woman, with loss of vision or organic lesion of the retina or optic nerve as the prominent or even sole symptom, no one can say that a series of convulsions may not set in at any moment and the expediency of **induction of premature labor in amaurosis and amblyopia** is the problem for solution.

It is with no desire to encourage license in the production of abortion or of premature labor, which many women only desire the slightest excuse to consent to, and which, alas! some unscrupulous physicians are too ready to advise, but in the firm belief that the threatened loss of one of the noblest of our faculties—the sense of vision—should be considered to be of the same importance as the other symptoms which are said to more directly threaten life, and to justify such a serious procedure as the induction of premature labor we declare the following conclusions:

That in all cases of pregnancy, it is not only desirable to examine the urine from time to time, but also to examine the eyes with the ophthalmoscope, even in a routine manner, since, as is well known to oculists, a large percentage of cases having lesions of the optic nerve and retina, either have none or make no complaint of loss of vision; but which may lead after

a long interval, through the secondary or atrophic changes, to complete blindness. It is also to be borne in mind that varying degrees of blindness, and which usually do not appear until the end of pregnancy, do not show that the retinal lesion may not already have been in existence for some time, and that the timely examination of the eyes might have saved sight and even life. Moreover, the evidences of disease of the kidneys not infrequently show themselves in the eye before they do in the urine.

In uremic amaurosis, without changes in the eye visible to the ophthalmoscope, even should the usual symptoms, such as dizziness, nausea and threatened convulsions, be absent, their occurrence is soon to be feared, and labor should be induced without waiting until the life, as well as the sight of the patient is in danger.

Where neuroretinitis, with grave organic lesion of the optic nerve and progressive loss of vision is present, in the later months of pregnancy, and the child, if not dead from the effect of the kidney disease, may be viable, it is not only justified, but urgently demanded that premature labor be resorted to. If the danger of delay is such that to wait until this time would be to doom the patient to blindness, the operation should be performed even in the earlier months.

In those instances in which, in one pregnancy, affections of vision have occurred which have remained permanent, abortion or premature labor in the following pregnancies which occur, may be rendered necessary.

Prognosis as to the recovery of vision is better in cases in which chronic nephritis does not already exist.

The induction of premature labor or abortion, both morally and legally is justified in order to save vision as well as life.

Women having once suffered loss of or impairment of vision during pregnancy, should have the danger of again becoming so, and the relation of cause and effect fully explained to both themselves and their husbands.

♦ ♦

Donald M. McIntosh, M. D.:

The method of removing a **retained placenta** is generally looked upon as having been perfected, and little or nothing

new is mentioned of it in our journals. Authors deal with it briefly, mentioning only a few methods, familiar to us all, probably because they feel a delicacy in handling at length such a simple subject.

I am frank to confess that for some time after I hung out my shingle this subject often worried me and placed me in embarrassing positions, but I soon learned from conversations of the "grannies" that "after-births grown to the side" were very numerous; so I believed my anxiety by hiding behind the same bush that a neighboring colleague or predecessor used, and in addition, won "grannies" admiration.

After waiting a reasonable length of time, I try Credé's method, but I find that it cannot be employed to advantage in some cases, owing to the pain, real or imaginary, that attends it. Then I try light traction on the cord combined with pressure over the body of the uterus, and when that fails I feel confident that an examination will disclose the fact that the margins of the placenta point to the fundus of the uterus. After observing the iron-clad laws concerning asepsis I introduced my first and second finger into the vagina, and when the margin of the placenta is beyond a reasonable reach, I employ this method: First, the most accessible place near the attachment of the cord is selected. Then, with the nail of the forefinger, or some suitable instrument, an incision is made through the tough membrane of the placenta. Light traction is now employed and the third stage of labor is ended.

The advantages of this method are that the hand does not enter the uterine cavity, the patient experiences less pain, and the placenta is removed more quickly and easier. Furthermore, the placenta, which is usually more or less tense and rigid from pressure around and behind it, collapses to a certain extent, making its diameter less, and, of course it comes out easier.

♦ ♦

William Gillespie, M. D.:

We are gently reminded that in some remarks preceding a paper on **bi-manual rotation** we were guilty of pronouncing any one who could not rotate such cases at will as but half a man in this line of work, and the suggestion is made that the evidence upon which a verdict is rendered is insufficient.

"But to justify such a statement it would be necessary not only to show that 50 per cent. of all obstetric troubles are due to this cause, but that those who cannot or do not rotate cannot successfully manage such cases."

We plead guilty to verbal carelessness. The plain statement used by us was not properly supported by anything given by us at that time, and was therefore not in accord with the rules of good scientific writing. It is not always easy to express tersely a fact which is founded upon ample evidence, but while confessing that the statement was not properly supported at that time, we reiterate it and will give a list of facts which do amply support the propositions.

1. "In more than half the cases in which I have been compelled to render artificial assistance the difficulty has been due to a posterior position of the occiput" (Robert Barnes).

2. In the majority of slow deliveries the delay is caused by a posterior position of the occiput.

3. Most extensive lacerations of the cervix are due to this cause.

4. It is the cause of the majority of serious lacerations of the pelvic floor.

5. Even in those cases where nature succeeds in effecting anterior rotation the pelvic floor is in more danger than it would be if the occiput had been primarily anterior.

6. The risk of septic infection is much greater in cases of prolonged labor.

7. The fetal mortality is many times greater in posterior positions, not only because of the delay entailed, but for easily demonstrated mechanical reasons.

8. The prolonged suffering, and physical exhaustion attendant upon such labors frequently result in permanent ill-health.

These are some of the reasons why the occiput should be rotated artificially, and if true will amply sustain our contention that he who cannot at will rotate such cases is only half an obstetrician.

To sustain these eight propositions by logical argument would exceed the limit of this department, but each of them is easily demonstrable, and we hold ourselves in readiness to give the evidences for any one of them, if challenged.



C. L. Bonifield, M. D.:

The diagnosis of **retrodeviation of the uterus** is made by bimanual examination. It is not difficult, but may require an anesthetic to determine the exact condition of the appendages, which it is always important to know before deciding what line of treatment should be pursued.

The indications for treatment are to reduce the weight of the uterus and increase the strength of its supports, or provide new ones. The weight of the uterus may be reduced by rest in bed, hot douches, saline purgation, by tampons, by incising the cervix, and by trachelorrhaphy or amputation of the cervix.

The supports of the uterus may be aided by position tampons and pessaries, by shortening of the stretched ligaments, or by forming new attachments to the abdominal wall or vagina. The reduction in the weight of the uterus should be coincident with, or preferably precede, whatever operation is made to hold it in place. Sometimes a curettage is all that is required, but not infrequently in child-bearing women a trachelorrhaphy or amputation of the cervix is also necessary. In many cases where a cervical operation is not required a preliminary treatment of hot douches and tampons is very beneficial, and will materially lighten the burden the support must maintain after operation. When these operations are needed and the uterus is exceedingly large, it is better worth while to perform them than wait several weeks for involution to take place before operating on its supports. Perineal lacerations must also be repaired. Attaching the fundus to the abdominal wall gives the needed support at the point at which it works at the greatest mechanical advantage. It is easily done and gives satisfactory results even in the hands of an amateur in a large per cent. of cases, though if the attachment is made too low it may interfere with the proper distention of the bladder; if fixed too firmly it raises the uterus too high—substitutes one abnormal condition for another. If the attachment is too small the new ligaments soon become so attenuated as to be inefficient. It has caused trouble in labor in a sufficient number of cases to cause most operators to abandon its use in women in whom pregnancy is possible. It has also led to obstruction of the bowels. Personally, I think it should never be used for retrodeviations.

Vaginal fixation, devised by Mackinrodt and Duhrssen, has not given satisfaction in the hands of many. I was in Berlin in 1892 and saw both of the operators do it, but it did not appeal to me and I have never tried it. It, too, has interfered most seriously with subsequent labor. I think that it is now seldom employed, at least in this country.



L. G. Davies, M. D.:

I recently attended a case of **Dystocia from Encephalocele**. Being summoned to Mrs. X., 38, 8-para, I found her in the second stage of labor, with inefficient pains. The child was in the fourth face position, and the waters that had come away were meconium stained; no sign of fetal life was made out. Rotation by hand and subsequently by forceps—under chloroform—failing, podalic version was done with much difficulty, being obstructed by a curious fluctuating tumor near the head. While preparations were being made to exercise traction on the after-coming head, a sudden sharp uterine pain shot it out, accompanied by a gush of sanious fluid and the disappearance of the "tumor" from the uterus. The swelling was then seen to be due to a large encephalocele. The child was dead. The mother subsequently did well.

**Necropsy.**—Full-time female child, normal size; very thick neck and small chin. Fronto-parietal part of skull normal in size; occiput smaller than usual. From occiput there sprang mesially a large encephalocele, which when empty and pendent reached to the sacrum, and without undue expanding held some 30 oz. of water. The sac walls were formed of skin, brain membranes, and thinned-out and expanded brain-cortex. The sac cavity was in free communication with the cerebral ventricles, by an opening roughly circular in shape and 1 1-2 in. in diameter. The cerebral tissue entering into the sac formation appeared to consist of occipital lobes only; the remainder of the cerebral hemispheres was of normal size. The tentorium was absent. The cerebellum was represented by a peculiar tongue-shaped prolongation (perhaps the vermis only) extending 2 in. downwards on the dorsal aspect of the cord. Sections taken from this process, when cut and stained, showed a modified cerebellar tissue. All the organs of the body were examined, but no other abnormality was found.

The mother informs me that three and a half years ago she

had, what must have been from her description a similar pregnancy, being a male child with a frontal meningocele, the size of a large orange. Her description of the child indicated also a spina bifida in the dorso-lumbar region, a small apple in size. This child lived seven weeks. Between these two abnormal pregnancies a healthy (girl) child was born, and is now 2 years old. No history of shock or other influence possibly causative could be elicited. Two such pregnancies occurring within less than two years make the case, I think, worth recording. Playfair, ("Midwifery," Part III, chap. vi.), specifies the dolichocephalic cranium—"prominent posteriorly, with the occiput projecting, which has the effect of increasing the length of the posterior cranial lever-arm and facilitating extension"—as an etiological factor in face presentations, and Herman ("Difficult Labour," chap. iii.) also makes allusion to it. This case might be regarded mechanically as an extreme example of such a condition.

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A. D. Willmoth, M. D.:

From my own experience I regard the myocardial changes as among the most serious changes that can arise, and one of the chief reasons why uterine fibroids should be attacked early.

In my judgment, those cases presenting themselves with a small fibroid, on whom an immediate operation is not advised, should be kept under as close observation as those cases where malignancy is suspected, for many of them will suffer from myocardial changes only, and by close watching and by early removal alone can serious results be avoided.

From the incident degeneration and complications it does seem that the most skeptical would see at a glance that a fibromyoma is not innocent, as we once thought, and without danger; but, on the other hand, the patient's life is fraught with danger from many sources, and to my mind the only reasons left as a basis of argument for the conservative school is the influence of tradition and the force and habit of fashion.

We are still told that if we let these patients alone until they pass the critical age (meaning the menopause), Nature will remove the tumor for them; naturally, the patient leans to this advice, and by so doing allows herself to fall a victim to one or more serious complications.

Personally, I do not believe that a single case can be proven where Nature cared for these pathological conditions further than to possibly diminish the size of the growth in a very small percentage; while, on the other hand, case after case is recalled where they became elements of danger at this time.

And those who advise us not to operate on fibroids for what may happen violate their supposed principles and fail to practice what they preach, when they remove an appendix between the attacks, or do an early ovariectomy. They have failed to recognize that the same principles should be applied to the condition under consideration, and by giving this advice to the patients they cause them to put off operative work until they become advanced in years, and it is only necessary to contrast the operation on a young woman of good general health, with none of the effects of a small growth of short standing, with the results to be expected from a similar operation on a patient the subject of malnutrition, anemia, secondly cardiac and renal complications arising from the growth of long standing, to appreciate the many advantages to be gained by early removal.

In estimating the mortality of operations for fibroid tumors of the uterus, Dr. Noble has found a general average of 2.26 per cent. In estimating the comparative risk of fibroids allowed to pursue their natural course, there is on one hand a mortality of from 15 to 20 per cent. from degenerations and complications in the tumor and uterus; adding to this the prospective mortality of 11 per cent. from complications outside the tumor and uterus, we have a total of 30 per cent. to compare with the operative mortality of 2.26 per cent., and this could be lowered to 1 per cent. less if all cases were subjected to early operation.

In studying the above statistics as compiled by Dr. Noble, many would say that the 30 per cent. represented the class to be operated on and the remaining 70 per cent. could be treated on the expectant plan. This has been so well answered by the author above referred to that I can do no better than to again quote him when he says that when a woman is told that if she allows the tumor to remain that her chances of dying from a cancer of the body of the uterus would be 2 per cent., of the neck of the uterus 1 per cent., of sarcoma 1.5 per cent., of necrosis of the tumor itself 5 per cent., of cystic degeneration 2.5 per cent., to say nothing of the less frequent and fatal com-

plications, and that the dangers of an operation were not over 2.25 per cent., and that she could at the same time escape months and years of semi-invalidism, that she could fulfill the duties which devolve upon her, instead of having to limit her activity to reduce her suffering, that no woman of sound mind would hesitate as to the course she would pursue.

To summarize, I desire to state that my opinion at the present time, based upon the statistics at hand and my personal experience, is that it is our duty to remove uterine fibroids so soon as they are diagnosed unless some constitutional disease or diseases exist that make operative procedures inadvisable because of the risk involved, or where we have to deal with a young and childless woman where a child is desired, or in those in which the tumor is subperitoneal, small, and giving no trouble.



John E. Cannaday, M. D.:

The **treatment of pus tubes** easily divides itself into the operative and non-operative forms. Again, the cases to be treated are both acute and chronic. These cases, with their varying degrees of severity and complication, present an almost infinite variety of pathological pictures to the operator. Our aim should be the restoration of health with the minimum sacrifice and disturbance of pelvic organs. The extreme and over-conservative measures advocated by some are as much to be deprecated as the most radical of measures. To secure the best results in these cases we must be on the alert, ready to attack the diseased condition promptly and boldly when the time is fitting. It is here that the finer surgical sense and judgment, born of inherited traits, of acquired skill, and ripe experience are needed. Each case is a law unto itself and must be treated accordingly.

Rather recently more attention has been devoted to the non-operative side of the treatment than formerly. It has been definitely shown that many cases of acute salpingitis will recover and undergo such complete resolution as to be capable of functioning normally a few months after the attack. Non-operative treatment should always be resorted to during the acute stage of the trouble, until it has been seen that drainage or removal of some organ will remove or decidedly lessen the source of the infection. The removal of acutely inflamed

organs is not indicated for the relief of the inflammation *per se*. Treat the acute primary tubal affections non-operatively for the preservation of the normal anatomy. There are pus tubes and pus tubes. I believe there are several distinct classes of pus tubes clinically considered. In one there is practically complete and early resolution, a few tubal angulations and a few fine adhesions being left several months after the attack. In another class the adhesions are dense, brawny, and powerful; tube, ovary, and broad ligament may be fused into a hard shapeless mass of almost unrecognizable nature. In a third class large amounts of pus are encapsulated and become sterile, the tubal lining is destroyed, the fluid part of the pus is slowly absorbed, there is prolonged invalidism. It is in these cases that the radical operation gives positive and pleasing results to the patient.

Non-operative treatment of acute cases, as a rule, should include the following measures: rest in bed, the application of ice bag over lower abdomen, liquid diet of high nutritive value, saline cathartics as needed, normal saline enemata given after the method of Murphy. The copious hot vaginal douche may give some relief from pain.

In a few cases it will be well to make an anterior vaginal section and drain a large abscess in some septic patient, later doing a radical operation to secure a permanent cure. When an abscess is opened and drained its walls collapse, it rapidly diminishes in size, the pus toxins are no longer absorbed under high pressure. Vaginal section of itself will seldom produce a permanent cure, but it is a means of saving life in certain desperate cases. By this means at times the patient's condition can be so improved that a radical operation will be well borne when the patient does not markedly improve under palliative treatment. The affected tubes should be removed. If one waits long enough, the pus will have lost its virulence and become sterile, or practically so; the resistance of the patient will be at a high pitch, and operation will be well borne. If one operates at all early, he will sacrifice a number of tubes that otherwise would have been restored to normal. When the abdomen is open, if pyosalpinx exists macroscopically, it is better to remove the tube. There is a decided advantage in freeing the uterine end of the tube before a forcible attempt is made to lift it from the pelvis. Before attempting to re-

move these large adherent pus tubes, considerable attention should be devoted to the millinery of the abdomen, the intestines being well walled off with gauze. If much pus is present, it should be aspirated, and the puncture closed before attempting to remove the tube. If, after all precautions have been taken, there is some soiling of the field, vaginal drainage (gauze and rubber tube) should be instituted and the abdominal wall closed by layer suture. If drainage through the abdominal wound is resorted to, wound hernia is apt to result. It has been my displeasure to have to operate on several cases of wound hernia produced by the drains of others. If the drains are placed through stab wounds, the results will be better. The cornual end of the tube should be carefully dissected out of the uterus, and the wound closed with catgut. The removal of the uterus, I think, is seldom indicated. It increases the operative mortality considerably. The separation of adhesions, at times easy, at times difficult, should be done with the greatest care to prevent the tearing of important structures.

When one has the remote results of salpingitis to contend with, when all trace of pus has disappeared and the patient, may be, wishes to become pregnant, adhesions and angulations of tubes may be liberated. If the tube is virtually normal, with the exception of having a club-shaped adherent end, this may be slit up and the lining membrane sutured to the peritoneal surface with fine catgut. In closing the abdominal wound I use tier sutures of chromic catgut for subcutaneous structures and unite the edges of the skin incision by a subcuticular stitch of linen thread.

I have performed what I term late abdominal section for the extirpation of pus tubes in more than one hundred cases with a mortality of 1 per cent.

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Herbert Smith, M. D.:

As cases of **extrauterine fetation** are not too common, I venture to submit notes of the following case. On June 13 I was asked to see Mrs. J., aged thirty-eight. She had been fourteen years married, and had only had one child (a boy), now thirteen years old. She had never had any miscarriages, but there was a history of endometritis some years ago. About two months before I saw her she consulted a doctor on account of a swelling on the right side, which was very painful, and

because she was constantly vomiting. She then went to bed, where she remained until I saw her. Four or five days before I saw her she felt something suddenly "give" on her right side; she got very faint, and the pain became very severe.

On my arrival I found the patient in an extremely weak condition, blanched, and suffering great pain in the right iliac region, where there was an irregular swelling about the size of the fist, dull on percussion and very tender. The pulse was very rapid and small. The cervix was soft, the os patulous, admitting the end of the finger, the uterus tilted forward and somewhat to the left; an ill-defined and very tender swelling could be felt in Douglas's pouch. This swelling could be more easily felt from the rectum. The breasts were enlarged and tender. The last menstruation dated from four and a half months previously. A diagnosis of ruptured ectopic gestation was made.

The abdomen was opened on June 44; the fetus was easily discovered, lying amongst the small intestines, with a good deal of clotted blood around it. There was no sac to be seen. There were a good many adhesions between the fetus and coils of small intestine, but these, for the most part, were easily broken down. The cord was tied and divided and the fetus removed. The placenta was firmly adherent, deep down in the pelvis, and appeared to be attached to the right cornu of the uterus or, possibly, between the layers of the broad ligament.) As some difficulty on account of hemorrhage was experienced in trying to separate it, it was thought advisable to leave it. After clearing away all clots a glass drainage tube was put in, leading down to the site of the placenta, and the wound closed in the ordinary way. After three days the glass was replaced by a rubber tube. It was syringed daily with boracic acid solution at first, and later with a weak solution of mercury perchloride. On two occasions—the eleventh and fourteenth days after the operation—troublesome hemorrhage occurred, the first time to a rather alarming extent; it was stopped by taking out the tube and plugging with cyanide gauze soaked in adrenalin solution. The temperature throughout was never above 101.6°. There was a good deal of discharge from the tube for the first three or four weeks, small shreds of placental tissue coming away; it gradually diminished, and in about another month had almost ceased. The



wound was completely closed on September 3. She has menstruated normally once since the operation, and is now in excellent health.

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## Book Reviews.

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**OPERATIONS UPON THE INTESTINES AND STOMACH**, by ALFRED H. GOULD, M.D., of Boston. 190 illustrations, mostly original, some of them in colors. W. B. Saunders Co., Philadelphia and New York. 1906.

The interest in gastric and intestinal surgery has been so great of recent years, advancement has been so rapid, that a work embodying the technique of the generally accepted methods of operative procedure will be gratefully received. Gould's work contains 190 illustrations which beautifully convey the ideas and almost without the aid of the interesting text, teach the technique of these delicate surgical operations. Full credit is given to the illustrated methods of nearly all of the workers in this field so that the work will have in time a historical interest valuable to those making contributions to the literature of the subject. The principal value of the book is, however, its concise completeness, and it is especially designed for those actually engaged in this kind of surgery; the suggestions are of a most practical nature and no one could with good ordinary surgical ability fail to grasp and employ successfully the procedures, so well are they illustrated and explained.

**THE PRACTICE OF GYNECOLOGY, IN ORIGINAL CONTRIBUTIONS BY AMERICAN AUTHORS**. Edited by J. WESLEY BOVEE, M.D., Professor of Gynecology, George Washington University, Washington, D. C. Illustrated with 382 engravings and 60 full-page plates. Lea Brothers & Co., Philadelphia and New York. 1906.

It is seldom that a medical work, unless it be an encyclopedia, made up of contributions by various authors, ever really escapes the rating of a crazy quilt patchwork, its component parts being irregularly thrown together without much harmony or connection. The contributors usually ride their hobbies or foist their newest fads upon the medical reader with but little apparent regard for the relations they bear to the whole. The result is usually unsatisfactory, the work

being top-heavy in novelties and weak in substantials. Dr. Bovee was fortunate in the selection of his co-laborers, eminently practical men, who understood his wishes perfectly and with his master hand to shape the creation, a practical gynecology was evolved which will enrich the literature of the subject. Aside from containing all of the usual matter on this subject, enlarged by the personal experiences of the contributors, that much neglected topic of vaginal operations for pelvic conditions is given full consideration and the reader is given an opportunity intelligently to study, what is yet perhaps somewhat of a debatable question, i. e., vaginal versus abdominal operations for certain conditions. Two chapters by Noble on Fecal and Urinary Fistulæ treat exhaustively of a subject ordinarily considered briefly if at all in gynecological works. Especially good are the chapters on Surgical Conditions of the Ureters by Bovee, who is a pioneer in this field, and also those chapters by the author on Affections of the Bladder in the Female, Affections of the Urethra in the Female and Diseases of the Rectum and Anus; Vaginal Operations by Goffe, and the various other chapters by Werder, Watkins, Schenck and Miller are very much to be commended.

**MODERN SURGERY.** By JOHN CHALMERS DA COSTA, M.D., Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia. Fifth edition with 872 illustrations, some of them in colors. W. B. Saunders Co., Philadelphia and London. 1907.

The fifth edition of Da Costa's "Modern Surgery" contains corrections and alterations which from time to time are made necessary by scientific advance of the subject. The expansions and corrections occur in about twenty subjects while in new matter there are over thirty additions, mostly recent operative procedures. For students and general physicians who usually desire one compact yet comprehensive work on surgery, or for the specialist who desires a ready reference, Da Costa is to be highly commended as satisfactorily meeting those particular needs. 872 illustrations, some in colors, illuminate the text and add to the interest of the reader.

**DISEASES OF WOMEN.** By J. CLARENCE WEBSTER, B.A., M.D. (Edin.), F.R.C.P.E., F.R.S.E., Professor of Obstetrics and Gynecology in Rush Medical College, Chicago. 372 text-illustrations and 10 colored plates. W. B. Saunders Co., Philadelphia and London. 1907.

Webster has written a very useful work, one which will add much to the satisfaction of practitioner or gynecologist

who employs it for the reason that he has endeavored to maintain the proportions of the pelvic organs and their relations to disease of women in a general sense. While he protests against the practice of concentrating the entire attention upon the contents of the pelvis as the fons et origo of all female difficulties without regard to physical or psychical conditions he also warns the general physician and neurologist against being convicted of ignoring pelvic factors in the consideration of neuropathics in women. He urges the widest range of thought and vision and aims to imbue his readers with well grounded ideas on broad lines, studying clinical phenomena in their widest relationships, emphasizing caution in the adoption of therapeutic measures not thoroughly tested and urging the retention of methods which have proved satisfactory. It would be difficult to point out in a short review the many items of interest contained in this text-book. Much praise is due to the clear and excellent surgical technique throughout the chapter dealing with Operative Work, especially that portion which deals with Injuries to the Pelvic Floor and the surgical treatment of Fibroma Uteri. The illustrations adorning the text are mostly from reproductions made under the supervision of the author, while the colored plates, ten in number, very successfully illustrate pathological process and operative technique.

**SURGERY, ITS PRINCIPLES AND PRACTICE, Vol. II.** Edited by W. W. KEEN, M.D., LL.D., Hon. F.R.C.S., Eng. and Edin.; Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia. 572 text-illustrations and 9 colored plates. W. B. Saunders Co., London and Philadelphia. 1907.

The second volume of this valuable series is devoted to surgery of the bones, muscles, lymphatics and nerves and shows the same degree of scientific excellence as was indicated in volume one. The section on Fractures by Eisendrath, comprising 205 pages, is profusely illustrated and covers the subject in a highly comprehensive manner. It contains the very latest additions to the best forms of practice in the treatment of these very difficult and often uncertain conditions. We note under fracture of the neck of femur reference to Whitman's abductive treatment as well as the procedure to using artificial means of making fixation of the fragments. Lovett has been very successful in giving a vast amount of

information on Orthopedic Surgery, though he has devoted less than two hundred pages to the subject. Woolsey, Da Costa and Dercum respectively on Surgery of the Nerves, Surgery of the Insane, and Surgery of the Spine have added material not often found in works on surgery. Other articles worthy of comment in more restricted fields are Surgery of the Muscles by Binnie and Diseases of the Bones by Nicoll. Condensation and directness are the keynotes of these contributions and the contributors, all of whom are practical surgeons, realize the value of plain essentials in making books for their fellow-workers. There is an absence of padding, nothing is superfluous, the illustrations are most excellent and the general appearance of the volume is that of the best quality of workmanship.

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## Translations.

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**Treatment of Contracted Pelvis.**—Olshausen believes that obstetrics can only be learned in a labor ward or in a lying-in establishment; it cannot be acquired either in private practice or in the out-patient room (Berl. klin. Woch.). While he discusses the treatment and management of contracted pelvis in a clinical lecture, he points out that the student must gain his technical knowledge at the bedside. It is wrong to suppose that the measurement of the conjugata vera is the vital point in contracted pelvis.

First, he speaks of the shape of the pelvis. In rickets the pelvis has several well-marked characteristics. The transverse diameter of the true pelvis is narrowed, the outlet is increased in size, and the sacrum is only slightly curved. Apart from this, other sign of rickets can be sought for and found. It is by no means easy to determine whether the transverse diameter at the inlet is contracted or not. Complicated instruments have been devised, but as a rule one must rely on the estimate which one makes from a digital examination.

Generally contracted pelves are even more difficult to diagnose exactly than rachitic or flattened pelves. He discusses

several points in connexion with this last-named form, and points out that the conjugata vera is rarely less than 8 cm. (that is, about 3 in.).

After the obstetrician has determined as far as possible the shape and size of the pelvis, he must estimate the size of the fetal head and also the degree of hardness. With considerable practice, it is possible to determine the size and shape of the head through the abdominal wall, but in many cases even the most experienced will fail. He believes that it is extremely seldom that one can make out the exact shape of the fetal head, in spite of the fact that so much depends on it.

One frequently can only determine the relative size of the head and of the pelvis when the labor has advanced. When the os has dilated and the head is lying over the inlet, one can form a good idea of the relative size of the head.

Next he turns to the mechanisms of labor with contracted pelvis. In flattened pelves, the head usually lies transversely at the inlet, the forehead being lower than the rest, and the anterior portion of the parietal bone presenting. In generally contracted pelves the occiput generally lies in the cavity of the inlet, and the sagittal suture tends to correspond with the antero-posterior diameter.

Other presentations are also met with. When the posterior portion of the parietal bone presents in high degrees of flattened pelvis, one has every reason to anticipate great difficulties.

After having detailed several varieties of the fetal position in the various forms of contracted pelvis, and the means which Nature adopts to attempt to get over the difficulties, he turns to the treatment.

With regard to weak pains, he regrets that we possess very few drugs which can be given to strengthen them. Warm baths are said to improve the uterine action, but he does not consider the action is at all strong, and he doubts whether it is advisable to give a bath after the os is dilated and the membranes have ruptured. At times one may improve matters by placing the patient in a more favorable position.

The operative treatment consists in one of the following: Forceps, prophylactic version, perforation, Cæsarean section, and division of the pelvis. He considers that the forceps should only be used in contracted pelvis cases with care and

premeditation. The forceps will not correct a faulty position of the fetal head; they will deliver only by brute force. If one decides to put the forceps on when the head has not yet engaged at the inlet, one must exercise great care, and the trial must be a short one. If after from six to eight tractions no progress has been made, the forceps should be taken off and perforation should be performed. Next he comes to version. There is no doubt that the after-coming head will enter the pelvis in a more favorable position than the presenting head. But one must not forget that the after-coming head has far less time to mold itself, and that the gain of obtaining a favorable diameter is largely counterbalanced by the want of adaption of the head to the shape of the pelvis through which it has to pass. For this reason far fewer living children are born after version than after the presenting head.

Prophylactic version may be carried out when the degree of contraction is moderate. Good chances of success are only present when the os is fully dilated and the membranes are still unruptured. While the author does not consider version as a good method for the fetus, he realizes that it saves the maternal parts from excessive pressure. Perforation and cranioclasia are indicated when the fetus is already dead, but he considers that it should only very rarely be performed on a living child. He dismisses Cæsarean section in a few words, since he has so frequently in other places written on this operation. The mortality has, thanks to the work of Saenger and others, been reduced to from 4 to 5 per cent. Porro's operation need not be considered any longer. He briefly describes the method he follows in performing this operation. With regard to pubiotomy (hebotomy) or symphysiotomy and their modifications, he points out that the technique of these pelvis-dividing operations has not yet been perfected. The chief dangers are hemorrhage, fistulæ, and tears into the lateral or anterior vaginal wall, with suppuration and general infection following.

The indications for these operations have not yet been definitely settled, and while he thinks that we are not likely to be able to avoid the dangers accompanying these operations, he feels inclined to believe that pubiotomy will continue to be recognized as a standard obstetrical operation. The technique

and indications must be fixed by those in charge of lying-in institutes.

**Tuberculosis of the Cervix Uteri.**—Deletrez (*Ann. Gyn. et Obst.*) has operated upon an interesting case of tuberculosis of the cervix. The patient was 21 years of age, had never menstruated, but had suffered from abundant leucorrhea since the age of 14. For two months her general health had been unsatisfactory, there had been an increase in the leucorrhea, but no hemorrhage and no pain. A vaginal hysterectomy was performed, and six months later the patient was in excellent health. A microscopical examination showed an inflammatory infiltration of uterine tissues with typical epithelioid and giant cells. Small necrotic patches were discovered, but no bacilli were found. Tubercle of the uterus is very rare, and its limitation to the cervix is unusual.

Cases have been reported occurring in early childhood, but it is most frequently met with during the period of sexual activity. It attacks multiparæ as well as nulliparæ. Gaertner has demonstrated the presence of Koch's bacillus in the seminal fluid; it is doubtful whether infection is transmitted in this way, it is more probably due to bad hygienic conditions. Traumatism has been suggested as a source of infection, and the use of pessaries or vaginal manipulations. According to Brouha, in 1892 medical literature only recorded three cases of primary infection of the cervix, ascending to the uterus. Tuberculosis of the genitalia is generally secondary or descending, and is a complication of intestinal, pulmonary, or peritoneal tuberculous affections.

Clinically it is possible to confuse tuberculosis of the cervix with ordinary metritis, accompanied by an ectropion and erosions of the cervical mucous membrane; it must also be distinguished from a syphilitic chancre and cancer of the cervix. The diagnosis should be confirmed by a microscopical examination and a careful search for Koch's bacillus.

A number of cases are reported of cancer of the uterus associated with tuberculosis of other organs, and Azasz quotes a case of tuberculosis of the fundus and cancer of the cervix in the same uterus. The patient had pulmonary phthisis, and the infection had probably spread from the lungs by the vascular system. Hysterectomy, either vaginal or abdominal,

according to the condition of the appendages, constitutes the best treatment for uterine tubercle, except where other organs show signs of active disease. When the lesion is small and localized, amputation of the cervix, or even curettage followed by local application, will suffice to arrest the affection.

**Appendicitis in Children.**—Riedel considers that the last word has been said with regard to the treatment of appendicitis in adults (*Münch. med. Woch.*) but, with regard to children, much less concord of opinion is met with.

He first casts a glance over his experiences and those of others. Since he has had charge of the surgical clinic in Jena—that is, since 1881—he has operated on every case as soon as it was admitted. There were 1,532 patients in all. Three died of the effects of the operation. His total mortality for the whole period is 8.6 per cent.; but if he divides the period up, he finds that in the first seventeen years it was 18.5 per cent., in the following four years it was 15 per cent., in the next three years 7.3 per cent. and in the last twenty-one months (dealing with 541 cases) it was 5.3 per cent. The large proportion of the deaths in this last-named period were in children. While only 2.9 per cent. adults died during this period, he lost 13 per cent. of the children.

The causes for this are: (1) the parents are either careless in recognizing illness early or are unwilling to allow the surgeon to operate at first; (2) the diagnosis is more difficult in children than in adults; (3) appendicitis is more dangerous in children than it is in adults; and (4) small children and infants are very susceptible towards infections from the appendix.

The first cause is the most important. One so often hears parents explain a pain in the abdomen and fever in a child by assuming that he or she has “upset his or her stomach” by eating fruit or other indigestible foods. But no indigestion is accompanied by fever. Poverty, too, may cause a mother to avoid sending for the doctor for a simple pain in the belly.

The diagnosis may be difficult in quite small children, but in older children it is not so. One must distinguish between the pain of appendicitis and the abdominal pain which at times accompanies central pneumonia, follicular tonsillitis, etc. Worms must also be excluded. Where enteric fever or scarla-



tina is prevalent, one must be careful not to overlook true cases of appendicitis in children. It is often not possible to make an exact anatomical diagnosis, but this is not of great importance, since the operation, when undertaken early, is free from risk.

The author deals with the pathological condition of the appendices in his operation cases. Fecal concretions undergoing decomposition and appendicitis granulosa are the most common causes of suppurative appendicitis. Foreign bodies are only responsible for a few cases. Strictures cause the condition frequently in adults, but rarely in children. He discusses the source of infection which gives rise to the supuration, and calls especial attention to infection from the female genital organs even in very young children.

After considering his cases minutely, he finds that neglected cases of decomposing fecal concretions are responsible for a large proportion of the deaths among children. Children can tolerate suppurative processes as well as adults, and since they do not run the risk of hypostatic pneumonia the chances which early operation offers them are just as good as, if not better than, those which early operation offers adults. He believes that if parents and general practitioners would only realize the importance of early operation in children as well as in adults, and accordingly send the cases to the surgeon within the first twelve hours, the results would alter materially. He has been able to reduce his adult mortality to 2.9 per cent., and it ought to be possible to obtain a still lower mortality in children.

**Hydatid Cyst of the Humerus.**—Cranwell (Rev. d'Orthop.) reports two cases of hydatid cysts of the humerus. The subject of one case was a female, aged 36, and the subject of the other a male, aged 21. Hydatid cysts, it is stated, are rarely met with in bones, and in 4 only of 970 cases of hydatid disease observed in the Argentine Republic was any part of the skeleton affected. By this, together with other and larger tables of cases, it is shown that of the few bones in which the disease has been observed, the humerus is the one most frequently affected. With the exception of this bone, and of the femur, tibia and fibula, the long bones are very rarely, if ever attacked. The author states

that he has been led by his experience to the conclusion that hydatid cysts of bones usually present the unilocular form. The evolution of the growth, except in cases of acute infection, is slow and painless, and in most instances the first indication of the bone affection is a spontaneous fracture, this lesion being characterized by freedom from pain, failure to obtain crepitus, absence of ecchymosis, and non-union. Failing any indications of malignant disease, syphilis, osteomyelitis, or tabes, it is possible to establish a correct diagnosis by exclusion. In suspected cases doubt as to the nature of the disease may be removed by radiography, which in hydatid cysts of bone affords a characteristic picture. The treatment should consist in trephining the affected bone and extracting the whole of the cyst. As it is often found difficult to remove, even by energetic scraping, all the vesicles, the surgeon, after doing his best in this respect, should inject into the cavity a solution of formol and allow this to remain there for a few minutes.

**Artificial Interruption of Pregnancy.**—W. Bokelmann attempts to fix the indications for the artificial interruption of pregnancy in diseases of the internal organs and the brain (*Sammlung zw. Abh. aus d. Gebiet d. Frauenheilk. u. Geburtshilfe*). He discusses the temptations of the obstetricians to procure abortion in order to satisfy their patients. Many women give most trivial reasons for wishing to get rid of their unborn babies. He says that not infrequently it is not shame or fear, but some motive, such as the desire to preserve a good figure, or the inconvenience of having a baby, etc., which induces them to seek the forbidden relief. When some women are told that the act of procuring abortion is criminal, they appear to be surprised, and say that they have not thought of it in that light.

The author compares the effect produced on the public mind by the commission of murder on a living person and the infinitely more frequent destruction of an unborn life. In the first place, one is not easy until the murderer has been caught and punished, while in the latter case no one troubles himself particularly about the matter. It is impossible to estimate the frequency of this class of murder, but it may be assumed that it is very frequent, since it is known that a large

number of persons earn their living by its means. Bokelmann regards the cause of this indifference towards a serious crime to be that those who are responsible for the ethics of society realize that it does not affect themselves.

Apart from those medical practitioners who systematically induce abortion for their patients and who sooner or later get into the clutches of the law, Bokelmann finds that a large number of highly respected practitioners show considerable indifference for fetal life, in that they are very lax in the indications for the destruction of such life.

The indications for the induction of abortion in recent times have been extended by some in a very wide manner. The opinion has been put forward that one has no right to sacrifice the life of the fetus to save the mother, since both lives are of equal value. However, it has long been recognized that when the mother's life is in danger, the fetus must be sacrificed, and the author realizes that it would be inconsistent to object to this, as, if the mother dies, the fetus must necessarily die also, save in those cases in which it is already viable. In determining whether any disease should be regarded as an indication for abortion, physicians appear to take a more lenient view than obstetricians, probably because they are inclined to regard pregnancy as a pathological rather than a physiological condition.

With regard to pulmonary consumption, he analyses the question from the point of view of whether the interruption of the pregnancy is capable of either curing or inhibiting the course of the tuberculous affection, and comes to the conclusion that the evidence does not justify one in inducing abortion, save in exceptional cases. He puts the case similarly with regard to diabetes, while in a few instances in leucemia, pernicious, anemia, and similar conditions one is justified in interrupting the pregnancy.

Hyperemesis gravidarum is a condition which often is accepted as an indication, but he considers that the practitioner should in nearly every case refuse to accept this as an indication. He does not deny that in rare cases the mother may die if left undelivered; more frequently, however, if one adopts a strict method of treatment, the vomiting ceases rapidly. With regard to cardiac diseases, he says that the induction is indicated only when compensation is disturbed in

the early stages of pregnancy, and also when there is a distinct history in previous gestations that the heart later on in pregnancy, gets into severe difficulties from which the patient recovers slowly.

He deals with renal diseases in a similar way. Turning to diseases of the nervous system, he does not regard the insanity of pregnancy as an indication for inducing abortion.

With regard to various forms of insanity, he thinks that if it could be shown that children begotten while the mother is insane are more likely to be mentally affected than children born of the same parents at another period, the induction of abortion would be justifiable in the interest of the child as well as of the parent.

**Modern Asepsis in Abdominal Operations.**—Walter Hannes (*Die Heilkunde*) points out that in the last few years the ideal aimed at in the modern aseptic management of operations has changed. Whereas in the early years of antiseptics it was considered sufficient if we could shut out those micro-organisms actually dangerous to life—liable to give rise to fatal septicemia, our aim now was to exclude all germs whatsoever, so that wounds should heal quickly, painlessly, and without pus formation. The investigations of Brunner, Lichtenstein, and his own have shown that this ideal goal is not in practice attainable. Nevertheless, he contends that every effort should be made and every measure utilized which can help towards that goal, so that the crevices in our antiseptic armour through which germs gain admission should be made as small as possible. We can completely sterilize the instruments, sponges, sutures, and other apparatus or material which comes in contact with the field of operation.

The sterilization of the hands of the operator and the skin of the patient is not nearly so easy to secure. In the case of the operator's hands, this is done with comparative ease and certainty by the use of sterilized india-rubber gloves; but this is not so in the case of the skin of the field of operation. In 1901 Küstner, at the Giesner Gynecological Congress, proposed, in the case of laparotomy, to shut out the skin from the operation field, by suturing to the connective tissue a sheet of sterilized india-rubber after the skin incision had been made. He recognized, however, that the expedient only par-

tially fulfilled its purpose. The same must be said of Doederlein's "gaudanin," a fluid, sterile rubber solution, which, when painted on the skin, dries almost at once, and leaves a thick sterile coating on the skin. Although not an absolute preventive of germ infection it is a distinct advance upon former methods.

The following are the antiseptic measures he employs in a case of laparotomy as a result of his accumulated experience: Everything which is to come in contact with the patient to be operated upon—sponges, brushes, dressings, etc.—are sterilized in a stream of high-pressure steam. The instrument trays and other glass-apparatus are sterilized by dry heat in an oven. The instruments are boiled for twenty minutes in a 2 per cent. solution of soda. Sutures are treated in the usual way, according to their material.

The cleansing of the patient for operation is done in two stages. On the day before the operation he receives two warm baths, with plenty of soap and scrubbing. A dressing steeped in 2 per cent. formalin solution is then applied to the abdomen. This is removed during the first stage of narcosis, when everything is ready for the commencement of the operation. Then follows a second thorough washing by the rubber-gloved surgeon with warm lysol solution, brush and ammonia-soda soap.

While the patient is being removed from the preparation table to the operating table, the abdomen is covered with a sterile towel, soaked in lysol solution. The patient being arranged on the operating table, this towel is removed, and the skin dried with alcohol and freed from fatty matters with ether. Then the whole field of the operation is painted over with tincture of iodine. This having dried, the Doederlein "gaudanin" rubber solution is painted over and lastly, a thin layer of sterile powdered talc is strewn over the dried surface. In the majority of cases this shuts out from the operation area all germs but those mostly harmless ones which may exist in the deeper layers of the skin at the site of the incision.

Next as to the preparation of the operator. More or less after the well-tried method of Fürbringer, are the hands and arms thoroughly cleansed with warm water, soap, lysol solution, alcohol, and brush; and after being dried with a sterile towel, a pair of sterile rubber gloves, talc powdered, are put on. The head is completely covered with a sterile linen cap,

and so also is mouth, nose, and beard. A long linen coat, sterile of course, with long sleeves, is assumed, and over the sleeve a rubber cuff is drawn as recommended by Küstner. The junction between the glove and cuff below, and the cuff and linen sleeve above, is covered by rubber bands about 3 cm. broad. Small holes, made accidentally in the gloves during the operation, may be neglected as of no practical importance. Experiment has shown that during the ordinary duration of an operation such small holes give exit to no germs. They may be afterwards patched, somewhat after the fashion of a bicycle tire, and the cost of new gloves thus avoided.

In the whole of this procedure only two antiseptic solutions are employed—that is, a 2 per cent. solution of lysol for dipping the gloved hands in during the operation, and a 3 per cent. carbolic solution in which the instruments lie. The use of normal saline solution, as it was found in a very short time to contain many bacteria. The cleansing of the peritoneum is done with dry aseptic towlettes and cotton swabs. The effect of the careful application of the above methods is shown by the result of thirty-five consecutive cases of Cæsarean section, all that occurred during a period of six and a half years. Among these there was not a single case of infection or suppuration.

**The Treatment of Hyperemesis of Pregnancy.**—So much difference of opinion exists with regard to the pathology of excessive vomiting of pregnant women that difficulties must be met with in formulating a rational form of treatment. H. W. Freund (*Deut. med. Woch.*) calls the condition “uncontrollable vomiting.” If this were caused by toxins which are derived from the periphery of the ovum, it would be impossible to cure the condition by psychical means. It is, however, well known that in some cases the vomiting can be stopped by suggestive treatment. If the condition were really a symptom of hysteria, it would be difficult to explain why certain gynecological manipulations, such as replacing a retroflected uterus, could do good. These sorts of arguments can be raised against every theory which has been built up to explain the hyperemesis. The older authors scarcely dealt with this complication of pregnancy at all, while at the present day every year brings a large number of articles on the subject.

If one defines the condition as excessive vomiting, as a form of vomiting produced by some bodily or mental affection which leads to a disturbance of nutrition, one can gain a better survey of the condition by considering the various factors which assist in calling it forth and the types of individuals in whom it occurs. Increase of reflex irritability is supposed to be due to toxins from the chorionic villi, the periphery of the placenta, or the intestinal canal gaining an entrance into the circulation.

But it is certain that all pregnant women have such toxins circulating in their blood. It is, therefore, necessary for a woman to be predisposed in some way before she will be attacked by hyperemesis gravidarum.

He deals with some of the changes found in predisposed women. Congenital or acquired abnormalities in position and shape of the stomach are frequently met with; chlorosis and anemia play, in the author's opinion, a much more important rôle than is usually accepted; while febrile and cachectic conditions must also be regarded as etiological factors.

Next he comes to the nervous or hysterical temperament. Every one knows how frequent eructations, vomiting, dyspepsia, and gastric cramp are in nervous persons. When a woman of this type is affected with a misplaced or misshapen stomach or with anemia, etc., one will find that she forms a likely subject for hyperemesis. But there are other local and general conditions which take a part. Of these he mentions affections of the nasopharynx as a common and well-marked example. It therefore appears that in treating this condition one must not neglect prophylactic measures. As soon as one realized that a predisposed woman becomes pregnant, one should commence the prophylactic treatment. This should be phychical at first. Those who come in contact with the patient must be influenced to follow directions. It is especially necessary to avoid any reference to the so-called accompaniments of pregnancy. Where this cannot be carried out with sufficient intelligent interest, the patient should be placed under the exclusive control of a good nurse, who will have authority to carry out the doctor's orders without any interference. Frequent visits on the part of the medical attendant are often necessary.

Thorough examination of the patient, and particularly of the genital apparatus, is necessary, and whenever this is possible, any abnormality or disturbance should be treated promptly. However, it is not often possible to carry out a prophylactic treatment, although this so frequently leads to complete success, since the patients usually apply for assistance after the vomiting has set in. In this case, one must first inquire carefully into the anamnesis, etc. A thorough examination will reveal defects and disturbances which can be influenced by treatment.

In the anemic forms one can rarely obtain satisfactory results unless the patient is kept in bed. A tight abdominal binder acts by driving a better supply of blood to the head and by quieting the excessive movements of the intestines.

Subcutaneous injections of salt solution may do good in some cases, in others very warm rectal injections of salt solution or of cammilla tea, to which some red wine may be added, often secures sleep. The application of hot alcohol to the

epigastrium also acts in the same way. Keeping the patient warm by means of the hot-air apparatus and the application of electric currents to the gastric region may be used with good results. Cacodylate of sodium can be given subcutaneously or per rectum.

With regard to the diet, special attention must be paid to details. He deals with this subject separately. The treatment of the purely gastric form depends largely on the actual cause. Gastric carcinoma may be the cause, and here neither artificial interruption of the pregnancy nor any gastric operations can save the patient. Enteroptosis is best treated by rectal irrigation, possibly combined with purgation and intestinal antiseptics.

He further deals with the treatment of a few other forms, and then turns to the dietetic-psychical treatment. As a rule, isolation of the patient is required. During the first twenty-four hours, and at times for the first forty-eight hours, the patient is kept absolutely quiet in bed, and no food of any sort is given. Not a drop of fluid, no medicine, no ice may be given. Rectal enemata are at times necessary to maintain the strength, and the salt solution injections relieve the thirst. Opium, or chloral hydrate may be added to the enemata, and warm baths at night-time may also be found useful. After the first period one begins to give food. This should be exclusively milk at first. Up to three litres of warm or cold milk a day suffices, the drinks being given every three hours. Next, albumin water, Mellin's food, gruel, etc., may be allowed. Champagne must be rigidly forbidden, as it often does much harm. From his one passes gradually on to ordinary diet. The changes must be carried out with circumspection and care, and the mental or suggestive element of the treatment must not be forgotten for a moment.

Freund then passes on to the treatment of those cases which resist this form of treatment. He claims that one should still endeavor to avoid interrupting the pregnancy. He instances cases in which his was successful by employing tricks. Even a sham operation may be justified, and will certainly lead to success. Only as a very last resort, when all other means have failed, and the patient is showing signs of sinking, may abortion be induced.

**Ovarian Hernia.**—De Snoo (*Zentralbl. f. Gynäk.*) reports that in the course of ten years in the Surgical Clinic at Utrecht 1 case of ovarian hernia was noted in 160 operations on women for femoral hernia; and 2 in 117 operations on women for inguinal hernia. Of the 2, the patient was two years of age in the first. The second occurred in a girl aged thirteen. There was a left inguinal sac containing an ovary in a state of cystic degeneration, and a Fallopian tube with a blind abdominal extremity, probably from secondary changes. A coil



of small intestine, easily replaceable, lay in the sac. The pelvic organs were carefully explored, but no abnormality of the genito-urinary tract could be detected. Both these cases of ovarian inguinal hernia recovered.

**Dysmenorrhea in Girls.**—Marie Tobler has investigated 700 cases of dysmenorrhea in Frankfort, following the example of Jakoby, John Williams, and Vedeler. In Tobler's series (*Monats. f. Geb. u. Gyn.*) the symptom was primary in 234 patients. By primary dysmenorrhea, painful menstruation beginning when the catamenia are first established is understood. Secondary dysmenorrhea, beginning later, was present in 466 of Tobler's cases, 322 being girls and 144 married or parous women. He concludes:

(1) The distinction between the primary and secondary form in multiparæ is important; the latter is distinctly the more frequent.

(2) Both forms are markedly frequent in nulliparous girls with constitutional disorders, such as chlorosis; in others where the establishment of the catamenia is retarded; in others where the patient's vocation is exhausting or unhealthy (lead poisoning, etc.); and in others with constipation, indicating impaired function of the alimentary canal.

(3) Menorrhagia is the rule in girls with secondary dysmenorrhea.

(4) The dysmenorrhea of young girls is markedly premenstrual, with its climax during the first hours of the show of blood. The pain is not of the labor type, but continual, and often associated with general malaise.

(5) The genital tract does not show any lesion sufficient to explain the source of pain.

(6) The fact that dysmenorrhea in young girls is so often secondary does not support the theory of purely mechanical agencies (stenoses, flexions) as its cause.

(7) Neither the circumstances of the patient's life nor her clinical history can in the great majority of cases justify the theory that the origin of dysmenorrhea lies in the nervous system.

(8) The majority of cases of dysmenorrhea in young girls appears undoubtedly due to disturbances in the pelvic circulation. Passive hyperemia is a common result of faulty nutrition, hygiene, and clothing; it is increased during the periods, so that very active hyperemia results. As the elastic elements of the uterus are not rarely ill-developed in youth, these disorders of the pelvic circulation entail stretching and compression of nerves.

(9) Tobler believes that the principal seat of the pain lies in the subperitoneal connective tissue, where the vessels and nerves are most exposed to pressure.

(10) Clinical observation and the results of treatment favor this theory.

(11) In contradistinction to the morbid conditions associated with dysmenorrhea in young girls, painful menstruation in married and parous women is often observed in patients where distinct morbid changes in the genital tract exist. Still, Tobler is uncertain how far such changes can be looked upon as the cause of the dysmenorrhea, and disturbances in the pelvic circulation may be, after all, the true agents in the establishment of the pain.

**Appendicectomy by Transverse Incision.**—Chaput (Bull. et Mém. de la Soc. de Chir. de Paris) in a report on 3 cases of appendicectomy communicated by Duval, directs attention to a new form of external incision which he described for the first time in the summer of 1905. This incision, which is acknowledged to be a variant of that known as McBurney's, starts from the antero-superior iliac spine, and is carried inwards in a horizontal direction to the external margin of the rectus muscle, and, if it be found necessary, still nearer the middle line. It presents, Chaput holds, several decided advantages over other procedures. At the level of the spine of the ilium the fibres of the internal oblique and transversalis muscles are, it is stated, absolutely horizontal. There is consequently no need for so long a cutaneous incision as that in McBurney's method, which is carried across the muscular interstices. Moreover, the fibers of the two muscles being parallel, more exposure is afforded than by a separation of intercrossing fibers. In the horizontal incision there is no sacrifice of any of the nerves supplying the rectus muscle, and therefore much less risk of subsequent weakness of the abdominal wall. Eventration, which occurs so often after some methods of appendicectomy, is less likely to occur if the dissection of the muscles be made between and not through their fibers. If it be necessary to drain the wound, there is much less risk of eventration after the horizontal than after other incisions. Chaput asserts that his operation affords much more room than that of McBurney, and also that, if necessary, the wound can be readily extended in the direction of the middle line.

**X-Ray Treatment of Malignant Tumors.**—The Twentieth French Congress of Surgery, held at Paris, October 7th to 12th (Sem. Méd.), discussed exhaustively the subject of the X-ray treatment of malignant tumors. Whilst some of the members were very sceptical as to any good results being obtained from the Roentgen rays, the majority had found them to be very beneficial in the case of superficial malignant disease, rodent ulcer, lupus, and the like. With regard to solid and deep-seated tumors the consensus of opinion was in favor of sur-

gical interference first and afterwards X-ray treatment to prevent, or, at least, retard, recurrence. It was also advocated in cases where the tumor was inoperable, and when operation was refused. In applying the rays to deep-seated parts a hard tube, at a considerable distance from the part to be acted upon, was recommended, that being considered the most certain method of preventing the absorption of the rays by the superficial tissues. When the center of the tumor has broken down, which sometimes happens before the peripheræ are affected, the skin covering that part must be protected from the rays, while they are directed to the circumference. Dermatitis from the rays was dwelt upon as a frequent occurrence, to be guarded against as much as possible, since the products therefrom were liable to be taken up by the lymphatics, and cause metastases in the glands. With only one or two exceptions the meeting was unanimous as regards the value of the X-rays as a palliative, even when a positively curative effect was denied.

**The Treatment of Placenta Previa.**—Zweifel (Muench. med. Woch.) realizes that version of the child and bringing down a leg, but without delivering, is the best method of stopping the hemorrhage of placenta previa, and at the same time preserving asepsis. The method of combined version, according to Braxton Hicks, helps one out of a difficulty when the os uteri is not dilated. Immediate delivery of the child undoubtedly improves the chances of the child, but as it is frequently associated with cervical tears, it increases the danger to the mother.

He deals with the whole question on the basis of the experience obtained at the Leipzig University Women's Clinic during the eighth year 1899 to 1906. Among 11,757 births there were 178 cases of placenta previa. Thirteen of the mothers died, which gives a mortality of 7.8 per cent. Of these, 3 died of puerperal fever and 10 of hemorrhage. He considers this sufficiently serious to call for an earnest attempt to improve the treatment, although there is no doubt that it compares well with the mortality obtained before the present method of treatment was introduced, which reached as high as 40 per cent. The three patients who died of fever had been examined or plugged by practitioners or midwives outside.

It is well known that persons who have lost a considerable quantity of blood are more susceptible to infection and offer less resistance to the action of the infective agent than ordinary persons. He deals in detail with the cases which died of bleeding. The quantity of blood which a woman can afford to lose is discussed. One woman recovered smoothly after a loss of 2,200, c.cm. of blood, four recovered after losing 1,500

c.cm., and so on. But when patient is admitted without a radial pulse and dies after losing from 100 to 200 c.cm of blood, he says that it is obvious that a very large hemorrhage has taken place before admission. In many cases the patient appears to have lost nearly a chamberful of blood. On sending for her doctor, she is ordered rest, and is told to send again if the hemorrhage recurs. This he condemns very energetically.

If a large hemorrhage takes place, and there is the slightest ground for suspecting placenta previa, a means must at once be taken to prevent a recurrence of the bleeding. This can be done by plugging the vagina.

The best and safest plug is the india-rubber bag dilator (Braun's). It has been stated that such a dilator does not keep. Zweifel, however, finds that it can be prevented from cracking or getting hard by keeping in oil or glycerine. It is taken out of the oil, rapidly sterilized by boiling for a few minutes, and is then quite ready for use, even if years old. Should, however, no bag be handy, one may plug with sterile wool or gauze, but this must be sterile. He considers that once a sterile packet has been opened it may no longer be used for this purpose. Failing perfectly aseptic wool, he advises boiling up the wool in water containing common salt (two teaspoonfuls to the liter), and a teaspoonful of acetic acid (or a tablespoonful of vinegar), so that the wool becomes styptic and aseptic. He shows by reciting the history of a case how a properly carried out plugging effectually stops the hemorrhage, and places the patient's life in safety.

The plugging must be kept *in situ* for a considerable time—in the quoted case it was kept up for three weeks. Turning to the question of the child, he finds that, on the whole, the chances are not good. In a number of cases the child is born prematurely in the process of saving the mother's life.

The first principle is therefore to plug after every serious hemorrhage, and to keep the plugging up for some time unless the labor sets in. When labor is beginning and the patient bleeds, if one can carry it out, the best method of stopping it is to puncture the membranes. But this cannot always be effected. One should then perform version, using Braxton Hicks' method of combined version when the os is only partly dilated. Extraction should not be carried out at once; but inasmuch as it is the head of the child which causes tears in the cervix, the body may be brought through the os, and then one should wait until the muscular grasp around the child's neck relaxes. This may at times cost the child its life, but it will be found to save the mother from undue risk. The finger may be passed through the cervix so as to allow air to enter the uterus, and thus to allow the child to breathe, or a catheter may be passed

into the child's mouth. In this way one may avoid asphyxia of the child.

When the placenta is centrally placed, one should first attempt to reach the child for the purpose of turning by passing two fingers outside the placenta between it and the symphysis, as this does less harm to the child. If this fails one may pierce the placenta, but in this way one sacrifices the life of the child in practically every case. Lastly, he states that he does not believe that either abdominal or vaginal Cæsarean section can be utilized with advantage to the mother in placenta previa, and he is confident that these operations would not have saved any of his patients had it been resorted to.

**Echinococcus in Broad Ligament.**—Horn (Monats. f. Geb. u. Gynäk.) observed this condition in a girl aged 20. She consulted him on account of profuse menstruation with severe pains in the left side of the pelvis. On examination a tumor of the size of a fist could be detected; it was not freely movable, and was diagnosed as a cyst of the left ovary. On opening the abdomen a tumor was found closely adherent to the intestine and omentum. On setting the adhesions free an echinococcus cyst was exposed; it came out like the kernel of a nut out of its shell. The greater part of the omentum was resected, and the abdominal wound closed without drainage. Recovery was rapid.

**Bloodless Labor.**—Galle (Zentralbl. l. Gynäk.), practicing in Silesia, was requested to attend a butcher's wife in labor in a distant village. The placenta was retained, and the midwife was puzzled by the total absence of any bleeding in the course of the labor. The patient, aged 38, had only once been pregnant before, having given birth spontaneously to a healthy boy twelve years previously. She was of small stature and emaciated, although living in easy circumstances. Galle arrived at the patient's home at 1 p. m. Labor had commenced at 4 a. m., and a healthy female child had been spontaneously expelled at 8.30 a. m. Not a drop of blood had escaped from the vagina, and there was none about the vulva when Galle introduced the catheter, for he detected great distention of the bladder. After all the urine had been drawn off, the uterus was found to lie backwards, behind the intestines, deflected to the right. The fundus nearly reached the liver. Galle pressed on the fundus and brought the uterus, with some difficulty, into its normal position. No fluid blood nor clots came away. The placenta was expelled twenty minutes after pressure had been exerted on the uterus. There was no blood amongst the torn membranes, and two small firm coagula detected on the raw surface of the placenta itself represented

the sum total of hemorrhage in this labor. About a dram trickled away shortly after the expulsion of the placenta. The rest of the puerperium was uncomplicated, and the child was reared.

**Intrauterine Fracture of Cranium.**—Elias (Nederland. Tijdschr. van Geneesek.) relates that a pregnant woman, four weeks before term, fell from a second-floor room, striking the right buttock. On the next day labor came on, and the child, which it appeared was evidently alive immediately before the accident, was delivered dead. The base of the skull was not injured, but two fissures were found in the right parietal and one on the left side of the frontal bone, with an indentation. Punctiform hemorrhages were detected in the cerebrum.

**Glycosuria and Abdominal Tumors.**—Evelt (Monats. f. Geb. u. Gyn.) was consulted about a woman, aged 41, subject for a year to abdominal pains and dyspnea. The period was perfectly regular, but a tumor had developed and a physician fancied that he could define a fetal head with clear ballottement. Dysuria set in, attempts at micturition causing spasmodic pains. Evelt found that the breasts, vulva, and cervix uteri showed none of the signs of pregnancy. The body of the uterus appeared to be the seat of a fibromyoma. There was a tense tumor posterior to the uterus and another, much larger, anteriorly; it was the latter which had been taken for a fetal head, and Evelt admitted that appearances were deceptive, and added that the patient herself believed that she was in the eighth month of pregnancy. On examining the urine it was found to contain albumen and also much sugar. All the usual tests for glucose were carefully conducted. The tumors certainly caused great inconvenience on account of their united bulk. There appeared to be none of the symptoms of diabetes besides the presence of much sugar in the urine. Evelt performed supravaginal hysterectomy, taking away a large cystic tumor of the left ovary and a smaller tumor of the right ovary together with the fibroid uterus. There were no complications during convalescence. One year after the operation the patient was in good health, and the urine was entirely free from sugar or albumen. It appeared that those abnormal compounds had both vanished from the urine directly after the operation in spite of unrestricted diet. Evelt believed that the glycosuria was due to pressure of the tumors on the pancreatic ducts. He refers to a case of glycosuria which was found to be caused by calculi in Worsung's duct.

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## THE SUPRAPUBIC PROSTATECTOMY WITH A POSITIVE METHOD OF CONTROLLING HEMOR- RHAGE.

BY J. EMMONS BRIGGS, M.D.,

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Surgeon Massachusetts Homeopathic Hospital.

When I received the invitation to present a paper at this meeting your magnanimous chairman left the coast clear for me to select my own subject, his only specification being that the paper be brief. This one request I am pledged to keep. The decision to write upon Prostatectomy was easily made, for is it not written that "out of the abundance of the heart the mouth speaketh"?

My interest in the surgery of the prostate was at first sentimental, actuated through sympathy with men who had "borne the burden and heat of the day," compelled to spend the evening tide in hopeless despair.

The evolution in the treatment of hypertrophy of the prostate has been similar to the progress made in the treatment of other inaccessible internal organs. At first hampered by absence of anatomical knowledge, later by imperfect technique, and always

by the lowered resistance of senility, progress along this line has been prodigiously slow. Man has suffered from senile hypertrophy for countless ages. What has been done to relieve the condition can be told in a short paragraph: the use of the catheter, tapping the bladder, tunneling the prostate, the establishment of permanent suprapubic and perineal fistulæ, perineal cystotomy, dilating the prostatic urethra, suprapubic drainage, division of the bar at the neck of the bladder by the use of a catheter carrying a concealed blade, by the use of the electro-cautery blade, perineal and combined prostatectomies, castration, vasectomy, ligation of the internal iliac, suprapubic prostatectomy.

The names of many illustrious surgeons are to be found among those who have contributed to the literature of the surgery of the prostate. Each has in turn worked out steps in advance of predecessors, each in turn ascended another round in the ladder, until the present day methods have been attained.

Several rather heated discussions have arisen as to the priority of method. All have met with encouragement and reverses, all have toiled for the common good. Of the present day prostatectomy it may well be said,

"In what a forge and what a heat  
Are shaped the anchors of thy hope."

Of all the methods before mentioned let us see how many have stood the test of time and are in use to-day. The catheter is still highly recommended by many who consider themselves conservative and progressive—its uses and abuses will be referred to later in this article. The Bottini operation still has its advocates but is rapidly falling into disuse. It is a procedure which is indefinite, dangerous, and uncertain as regards radical cure. Perineal prostatectomy is still largely practiced, and will continue to be the operation of choice in the hands of many surgeons, but I believe destined to be superseded by the suprapubic operation of Freyer, probably with some modifications in technique.

It is my purpose in this paper to refrain from a discussion of the relative merits of suprapubic and perineal prostatectomy, not because the subject is past argument but solely for lack of time and space. All of us who have had experience in the surgical treatment of hypertrophy of the prostate recognize that



our success in the relief of this distressing condition is not dependent upon whether the prostate is attached by way of the perineum or by the suprapubic route. It is a question of *when* rather than *how* the operation is performed.

In the treatment of hypertrophy of the prostate no accurate idea of results can be obtained unless the cases be carefully selected and classified according to the pathology and symptoms which patients present when they come under our observation. With this thought in mind let us divide all cases of prostatic hypertrophy into three groups.

### Group I

All cases in their incipency. Then the passage of urine is attended with a moderate degree of straining, when the stream is diminished in volume and strength, with increased frequency, when sleep is more or less interrupted by the necessity of voiding urine. At this stage there is no appreciable residual urine and no cystitis. Upon physical examination the finger within the rectum may detect a prostate of variable size and hardness, sometimes scarcely perceptibly increased, frequently, however, of large proportions. The size of the prostate is no index to the amount of obstruction which may be present, for frequently the hypertrophy is intravesical, showing no perceptible alterations per rectum. Patients during this stage are able to continue their ordinary vocations, and frequently, owing to the very gradual change, do not realize their condition until they present symptoms which we will consider under

### Group II

The stream now becomes much altered. With great straining the patient is only able to force the urine drop by drop, or a dribbling stream may fall perpendicularly. There is now residual urine of variable amount, and the chronically distended bladder makes the patient's life miserable. At frequent intervals during the night he is compelled to attempt to empty the bladder. The sleep is greatly interrupted; the appetite fails, and coupled with the loss of sleep and pain, the patient emaciates and the general health is much impaired. After this condition has been present for some time complete obstruction occurs which necessitates the use of the catheter. If cystitis does not

precede its use it will soon follow, for in spite of careful introduction it is practically impossible to avoid it.

With prostatic hypertrophy, residual urine, and a violent inflammation of the bladder we have a combination which is little short of torture and which, if not promptly treated, will result in an ascending pyelitis. Residual urine favors the formation of calculi and it often happens that vesical calculi coexist with chronic hypertrophy of the prostate.

Physical examination in this group reveals nothing materially different from the condition in Group I. The prostate may show marked enlargement or scarcely any. I do not use the cystoscope, as the information derived from this source is of little value. If stones are present they can be removed when the bladder is opened. If the prostate is large and presents in the bladder while not materially altered by rectal palpation, so much the more favorable for the suprapubic operation. What one sees by the cystoscope in cases of hypertrophy of the prostate is not in my opinion worth the annoyance caused by the instrumentation.

After the patient has been told to void his urine the immediate passage of the catheter will show several ounces of residual urine. The examination of the urine gives one a fairly accurate idea of the condition of the bladder mucous membrane and as to whether the kidneys are secondarily involved.

### Group III

We have but to carry the condition as described in Group II one step farther and we have the typical picture of the last stages of these unfortunate sufferers.

An old man, weakened by infection, health, appetite and strength gone, in distress morning, noon and night; the urine can no longer be voided without a catheter, nor is he able to pass the instrument unassisted. Frequently after repeated attempts, in which he is unsuccessful, he calls for medical assistance. The physician has little better success, but after repeated attempts, attended with much pain and hemorrhage, he is successful, or after the making of numerous false passages turns the case over to the surgeon, or he may suprapubically aspirate.

The bladder is now distended and there may be constant dribbling. The relief afforded by successful catheterization is

transitory. In a few moments the ever constant inclination to void urine is again upon him. A severe septic cystitis is now present and in all probability a pyelitis or pyelonephritis. Palliative treatment is no longer possible; something radical must be done in order to afford relief.

In one of my most recent cases the straining and constant tenesmus was so great that mucus and feces passed involuntarily, large hemorrhoidal masses protruded from the rectum and the sphincter was so greatly relaxed that he could not in the least degree retain a rectal enema.

Besides the local conditions met with and above described there are constitutional conditions which when they appear are precursors of speedy dissolution,—chills, rise of temperature and pulse, a dry tongue, anorexia, headache and great lassitude. These indicate absorption, toxemia and renal insufficiency. Through these three stages all who enter must pass. "All hope abandon, ye who enter here," were the dreadful words which Dante beheld written upon the gate of Hell. Were it not for the hope offered these sufferers through modern prostatectomy, this motto would not be inappropriate.

It is my desire to very briefly give you the result of my observation and experience in the line of treatment adapted to these three stages as classified in Groups I, II, and III.

It will be seen that those patients in the first group are not materially impaired in their general health, that their only symptoms may be slight straining in passing urine—with some annoyance occasioned by increased frequency in micturition, oftentimes more noticeable by night than during the day. The patients at this stage will look with disfavor upon so radical an operation as prostatectomy; nor is it wise in my opinion to urge a patient who is in this condition to undergo it. There may be years pass under judicious treatment before the case requires such radical measures. Such patients need watching, their lives should be carefully regulated; exposure to cold and dampness avoided, and the use of alcoholic beverages curtailed or entirely prohibited. Any symptoms of cystitis should be immediately treated by urotropin internally and the bladder may be occasionally irrigated with a boric acid solution under the strictest aseptic technique by a skilled attendant, or better, by the physician himself. When the condition becomes quite annoying it is well to have a heart to heart talk with the patient and explain

to him as accurately as possible the nature and tendency of his difficulty, enlarging upon the favorable opportunity now present for radical operation and the dangers of delay.

In the very early stages it is our duty to explain the natural tendency of the disease, its comparative freedom from dangers if early operation is performed, to warn him of the dangers incident to delay, but to leave the matter in his hands for final decision.

Most of the cases which present themselves to the surgeon belong to the class described in the Second Group. They have cystitis to a troublesome degree, they are constantly annoyed by the frequent necessity of voiding urine, which is only accomplished by much effort and straining. Their general health is showing the strain of suffering and lack of sleep. In these cases it is clearly our duty to interfere, to even urge our patients that further delay is hazardous, that kidney complications are imminent and that if they ever hope for relief they cannot postpone operative interference longer. Their condition even now is not as favorable as it would have been earlier in the case, but far more hopeful than it will be later on.

With a purulent cystitis established and urinary examination clearly indicating pyelitis with inability to afford relief by the use of the catheter and irrigation, with repeated chills or chilly sensations and rise in temperature, we behold our patient in imminent danger of speedy dissolution. His life is intolerable to him. He implores operation and cannot be deterred from assuming all the risks attendant therein. If it be explained to him that operation offers little chance he will seize what opportunity it offers with avidity, as a drowning man snatches at a straw. Life is no longer desired unless it can be freed from the suffering he is now experiencing. What can be said of the prognosis in such cases? It is decidedly unfavorable yet may not be hopeless. Any surgeon who is seeking to compile favorable statistics on prostatectomy will refuse such risks. Nevertheless there is no more ignoble prostitution of our high ideals than the refusal to render assistance to suffering humanity out of fear that our statistics may suffer in the attempt. If not absolutely hopeless it is clearly our duty to relieve these cases. If we undertake a complete prostatectomy the mortality will be very high, but during the past year I have made use of

the two-stage operation, which is a great step in advance in the treatment of desperate cases.

At the first sitting the suprapubic incision should be made, a large drainage tube inserted into the bladder and free drainage instituted. If purulent cystitis be present, either constant irrigation should be employed or frequent antiseptic irrigation resorted to. This will be followed by most gratifying relief. If the septic condition of the bladder clears up and the patient shows recuperative power, an enucleation of the prostate may be undertaken later.

It will be borne in mind that immediately following the establishment of suprapubic drainage these patients are comfortable. In a few moments this transformation from misery to comfort is accomplished.

Even with the two-stage operation the mortality will always remain high. Senile decrepitude, bladder sepsis and impairment of the kidney have conjointly accomplished much in their work of dissolution.

The mortality in prostatic surgery depends in a considerable degree upon the skill and judgment of the operator, but far more upon the progress of the disease when operation is undertaken. Any surgeon who has a low rate of mortality either refuses operation upon late cases or is fortunate in not being consulted at this time.

In the removal of the prostate only two operations are now to be considered, the suprapubic and perineal. I shall confine my attention in this paper to the former. If the patient consults you in season and is willing to have early operation, the mortality should be very low.

I have operated several cases which could be classified under the first group with very satisfactory results, both as regards immediate and remote effects of the operation. I have had no cases of incontinence and none have died. I do not consider the operation especially hazardous or severe.

In Group II there is more risk but with chances altogether in favor of recovery, if the kidneys are not impaired. In the third group I always advise the two-stage operation, and invariably explain to the patient that the risk is great but without it the chance of recovery is *nil*.

Before deciding to perform prostatectomy we invariably keep the patient in the hospital several days under close observation.

The urine is carefully examined to determine the degree of cystitis which is present and to ascertain the amount of renal involvement. The heart, lungs, arteries and blood are examined. If there is much cystitis, the bladder is irrigated twice daily as a preparatory step to operation. If conditions seem favorable, a complete suprapubic prostatectomy is undertaken. The patient is given a little chloroform, frequently preceded by

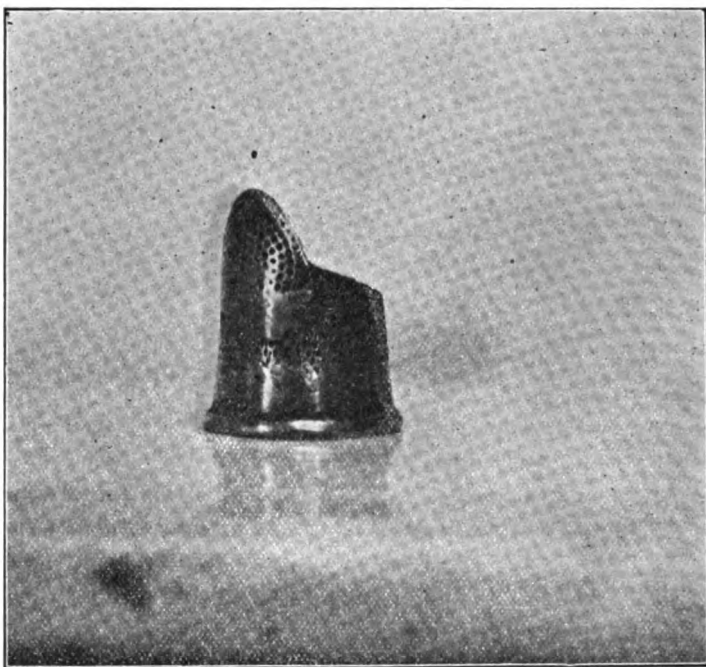


Fig. I.

two hypodermic administrations of the Abbott H. C. M. tablets, which by the way may be sufficient without any other anesthetic. A soft catheter of large size is then introduced and the bladder irrigated until the return water is perfectly clear. The bladder is then distended with water and the catheter left in position. The suprapubic incision is now made down to the anterior wall of the bladder. Before opening the bladder two silk sutures are introduced about one-half inch apart, and between these the bladder is opened. Then the silk sutures are of the greatest service inasmuch as they act as retractors, keeping the bladder

open and preventing the anterior wall of the bladder from falling away from the parietal wall. These two sutures are ultimately made use of as fixation stitches in retaining the bladder to the parietal wall at the site of the incision. After opening the bladder the water is again turned on through the catheter and irrigation is continued throughout the operation. The finger is now introduced into the bladder, and the size, shape, location and consistency of the prostate are determined. The finger is swept about the interior of the bladder to determine the presence of calculi and the formation of sulci. The soft catheter will now be felt protruding into the bladder at about the center of the projecting prostate. After the preliminary examination a point at the right side of the catheter about one-half inch from the prostatic urethra is a favorable point to penetrate the mucous membrane. I then place upon the index finger of my right hand a thimble, which is shown in Fig. I, which I constructed from an ordinary thimble by cutting off the top and soldering it to the side of the thimble, which makes a projection like a finger nail. The cutting surface is moderately sharp, somewhat serrated. With this the mucous membrane is easily torn through.

The thimble is then removed. The enucleation is usually made in from three to ten minutes with the finger, assisted, of course, by the index finger of the left hand inserted in the rectum. Some bleeding, usually of a moderate degree, is now encouraged. The catheter is now removed and an olive-pointed bougie substituted, the point of which is allowed to protrude through the suprapubic incision. I then select one of my prostatic bags which conforms in size as nearly as possible to the size of the prostate removed and slip the end which is continuous with the interior of the bag on to the olive point of the bougie. The bougie is next withdrawn from the urethra which allows the bag to drop through the incised wound and into the bladder, while the rubber tube follows the bougie through the urethra and protrudes therefrom. The other rubber tube, which is attached to the opposite side of the rubber bag, is allowed to protrude through the suprapubic incision. The syringe nozzle is now applied to the tube which protrudes from the penis, and the rubber bag is distended with water. At the same time moderate tension is exerted upon this tube and with the index finger the bag is pressed into the cavity occasioned by the

enucleation of the prostate. A clamp is then applied which retains the water within the bag.

This step in the operation accomplishes two important features—it inverts the mucous membrane which originally overlaid the prostate into the cavity, approximating mucous membrane to underlying connective tissue, retaining it in this

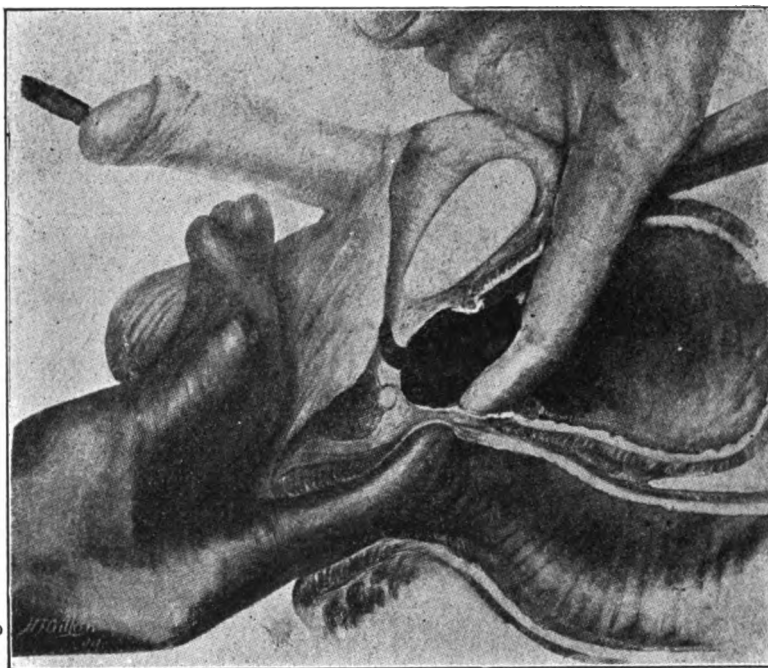


Fig. II.

position, and it immediately stops every drop of bleeding following the enucleation.

A large-sized rubber drainage tube is now applied and stitched in the suprapubic wound, and through this tube the rubber tube attached to the bag is passed. My original bags were not provided with this attachment. It was a later thought and is a great convenience, for to it may be attached a catheter so that when the bag is drawn through the penis a catheter may be left in the bladder. This tube also provides a means of removal of the bag through the wound, if thought desirable.

After the bag is in position one leg of the patient is placed in



a posterior splint to prevent its being flexed, and the penile end of the tube is attached by surgeon's adhesive strap to the inner side of the leg opposite the knee joint, exerting moderate tension. The bleeding occasioned by the suprapubic incision now being entirely controlled, there will be absolutely no discoloration of the water when the bladder is irrigated through the suprapubic drainage tube. After applying a few deep sutures in the suprapubic wound the operation is complete.

It is my custom to remove the rubber bag in about twenty-four hours, and it is done as follows: the leg splint is removed, the clamp taken off and the water which was contained within the bag flows out; a small union is inserted in the rubber tube which projects from the suprapubic drainage tube and on it a catheter is slipped. Now exert gentle tension upon the tube which protudes from the penis and the collapsed rubber bag will slip through the urethra and be delivered, causing the patient no special discomfort. By more traction upon the tube the catheter will follow it and can be left at the desired position, where it can be retained by fixing it to the penis by any means desired.

Of course the bag can be as readily removed via the suprapubic drainage tube, but I prefer the removal per urethram, for in so doing the adhesions which have formed between mucous membrane and underlying connective tissue are not disturbed and the catheter may be so readily introduced.

After the catheter is in position we attach a long rubber tube to its distal end and carry it to a bottle which is placed upon the floor by the side of the bed. Formerly it was my custom to employ continuous irrigation with boric acid hot, which was allowed to pass by gravitation in a small stream through the catheter into the bladder, where it was continuously sucked out by a hydraulic pump, but I no longer use this apparatus except in my septic cases. Lately I rely upon frequent irrigation of the bladder through the suprapubic tube. This is accomplished by turning the patient upon the side, syringing into the tube and allowing the outflow to pass into a pus basin. Irrigating in this manner once in four hours seems amply sufficient in all save my septic cases.

Before closing this paper I wish to say a few words about my rubber bag as a hemostatic. So far as I know the idea originated with me, about four years ago. My first experi-

ments were conducted with an ordinary gum elastic catheter, to which I fastened a severed glove finger ; retaining it in position by a silk ligature, which encircled the glove finger and catheter about an inch below its eye. Water was then injected through the catheter and a bag was formed, which proved efficient in controlling hemorrhage.

The next step was the construction of a rubber bag, in three sizes, similar to those now in use, but with only one tube at-

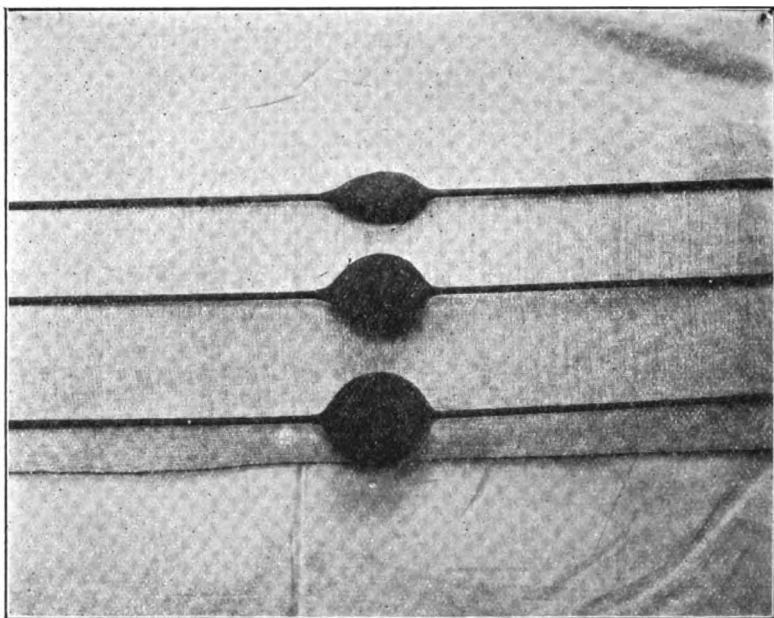


Fig III.

tached, which was continuous with the interior of the bag. An account of this bag with illustrations will be found in the August number of the New England Medical Gazette, 1906, p. 391.

The present bags as now seen in Fig. III. represent them as they are now used. I am in receipt of numerous requests for these bags, which is to me most gratifying, for it shows conclusively that they are fulfilling a need either real or imaginary in controlling the bleeding after suprapubic enucleation.

## GONORRHEAL SALPINGITIS.\*

BY C. B. KINYON, M.D.

When first asked to write upon the subject of gonorrheal infection of the Fallopian tubes, it was my intention to confine myself to those tissues only but, in view of the fact that they are necessarily only secondarily involved, a word regarding a few general principles will tend to make the matter more readily understood from both the standpoint of prevention and cure. Allow me to say, at this point, that I am of the number who believe that gonorrhea can be cured. By this I mean that, not only can the disease be eradicated, but all sequelæ prevented if it is taken in time and properly treated. This leads me to make one observation in passing. Gonorrhea is not a "constitutional" disease which modifies the tissues and juices of the system, therefore nothing has yet been found that will, to any extent whatever, produce "immunity." Herein lies one great danger from this disease, because the same individual may have repeated attacks of the disease from reinfection. Another important fact it is well to bear in mind, viz., that the disease is very contagious indeed. It is only necessary that the germs come in contact with a suitable, even though quite healthy mucous membrane, for them to multiply and subsequently penetrate the surrounding tissues, thereby giving rise to a virulent form of the disease. The danger is in proportion to the number and activity of the germs introduced. We see an example of the truth of these facts in the rapidly destructive cases and appalling results of "ophthalmia neonatorum."

Were I to touch upon the social phases of this disease I would necessarily far exceed my limits. Then again, this aspect of the subject is to be treated, far better than I can do it, by other members of this Association.

A fact of great importance to all who practice obstetrics is this. It is generally conceded that any infection arising during the course of labor is due to the accidental introduction of bacteria into the parturient canal during the process of labor or early during the puerperium. But this is not always the case, where the woman has previously been infected with this disease,

\* Read before the Michigan State Homeopathic Association.

as the organisms of Neisser may lie dormant in some portion of the female genital tract, even for years, and acquire great pathogenicity during the process of childbirth.

The evidences of this disease in both male and female is most frequently first seen in the exudate of acute urethritis. In young women the urethra and external genitals are most subject to attack, while in older women, with relaxed outlet, the vault of the vagina and the cervix are more prone to be attacked. The discharges often cause an eczematous inflammation. This, if long continued, will lead to small condylomata. Skene's tubules, the glands about the urethra and Bartholin's glands are sooner or later affected in most cases.

If not thoroughly eradicated in the earlier stages, these germs may lie dormant in the tissues just named for weeks or months, or even years. Many cases are on record where this has been the case for fifteen or twenty years, and they may, under proper excitation, become virulent again.

Some authorities claim that true cervical erosion is always of gonorrheal origin. All agree that this disease tends to become "chronic," in other words, "latent." And they further agree that this may, at any time, transmit a virulent infection. If the ducts of the vaginal glands become occluded abscesses usually result. If abscesses do not form, and the germs are not destroyed by the process of suppuration, they may lie dormant indefinitely. It is true that the initial symptoms are not as acute in women as in men, but it is equally true that in women this disease is far more liable to produce greater harm and its ravages often, in fact generally, lead to sterility, chronic invalidism, and even death, in many cases.

Statistics are sometimes misleading, therefore I will not use them to any extent to-day. Some writers insist that eighty per cent. of the males in our cities have had this disease at some time during their life. I sometimes think that this is not far from the truth. They further insist that in this disease as now treated by the rank and file of the profession (and also including those who treat themselves), one half of those who contract the disease are not cured but will later on transmit it. I am hardly prepared fully to credit this, especially in cases of private practice, but as seen in public hospitals, this estimate is not far from the truth. Then again this disease leaves the mucosa so altered that the woman is more liable to other infections. In

unmarried and nulliparous women, and those who have never been pregnant at all, fully seventy and some authorities say seventy-five per cent. of all the venereal diseases are due to gonorrhea. But in parous women the puerperal infections play an important part, bringing the average of gonorrheal cases down to forty per cent.

The organisms of Neisser has some distinct characteristics and peculiarities. It is very difficult to grow in culture media and is not at all active in animals but yet, when once introduced, it is the most difficult of any known germ to eradicate fully from the generative organs of women. Within the glandular structures it produces serious inflammation and shows little, I might almost say, generally no tendency whatever to heal spontaneously. This germ penetrates tissues, develops and produces a reaction, e. g., gonorrheal arthritis, endocarditis, and occasionally peritonitis and other diseases. When the disease reaches the uterine cavity it rapidly spreads to the Fallopian tubes. Very rarely the interstitial portion of the tube may be sealed by the inflammatory exudate before the tube itself is invaded. But this is so rare as not to be considered. When the germ reaches the tube the rapid spread and copious exudate, with resulting adhesions, usually seal the fimbriated extremity of the tube, thus preventing frequent attacks of peritonitis. Of course, they may penetrate the uterus by way of the utricular glands and cause trouble by being absorbed into the blood or lymphatic systems. An almost universal sequel to this disease is sterility, as well as invalidism. A description of the best method of testing for the germ that causes this disease may be of interest to some of you. Therefore I have asked Dr. Gillette, my clinical assistant, to outline the method upon which we generally rely.

“The laboratory method of diagnosis of gonorrhea is a very simple procedure which any practitioner can follow out. It might be well to mention that, before collecting the specimen for examination, the parts must not be douched or cleansed for at least twenty-four hours.

The discharge, whether it be from the urethra, vagina, vulvo-vaginal gland, mouth of the cervix or from uterine curettings, is smeared as evenly and thinly as possible over a small cover-glass. This is then fixed and the life of the bacteria destroyed by passing the cover-glass, while held between the thumb and

index-finger, through a small gas flame, three or four times. Heat kills them very promptly. This prevents the water from washing away the smear. The stain most commonly used is a saturated watery solution of methylene-blue. Enough is put on the glass to cover it and left there for two or three minutes. It is then washed under the tap and dried between filter paper. The specimen is then mounted in a drop of Canada Balsam on a glass slide. If the balsam does not spread readily, the passage of the slide through a flame two or three times will facilitate.

After having mounted the specimen, it is examined under the microscope with the 1-6 power objective. The presence of the gonococci can be ascertained with this but to see more plainly it is well to use the 1-12 power objective with a small drop of oil immersion on the cover-glass.

The gonococci appear to be taken up by the leucocytes, more especially by the polymorphonuclear, whose power of phagocytosis is greatest. They may be found in groups or scattered about between the leucocytes. This is more true if the case has become chronic, but if acute, phagocytosis will be more pronounced. The gonococcus is not a true coccus but is more like the shape of a biscuit, with a base or one flattened side. This base fits against the base of another and thus we find them around in pairs, with just a small space of distinction or line of demarcation between them."

Before speaking of diagnosis a few principles will be in order. When dealing with disease of the tubes due to this infection we depend very largely at the outset upon the history of the case, and it takes time and tact to obtain a complete history and not arouse the suspicions of the patient. This is preëminently necessary especially in many cases of married women. One must always bear in mind that the disease has reached the tubes through the genital canal. By the way, this is true of nearly all the infections except that of tuberculosis. One other fact should be borne in mind. It is very rare indeed that the tubes alone are involved, but by continuity other tissues are invaded as well.

Let us briefly outline the best method of physical examination in order to make a careful and reasonably accurate diagnosis. I might say in passing that a differential diagnosis is not always possible, neither is it necessary in most cases that we should make a positive differential diagnosis. As a rule we need

only decide whether or not surgery is called for, and be prepared to do whatever the conditions demand when we operate. If the patient is unmarried or is very nervous or there is marked tenderness give an anesthetic, generally to the surgical degree. The idea advocated by some that you can do better without it, as the patient will then be able to tell you when and where the tenderness is located, is not at all good practice as the parts will be so rigid as to make a diagnosis impossible; and the pain, which by the way frequently continues for hours after the examination, is not only exhausting to the patient but may discourage her from all treatment or even cause her to change physicians.

Remember this; if the patient is very sore and the tenderness is quite general you are justified in assuming, at the outset, that the case is in the acute stage, and you must desist from further examination and treat it as all other acute cases are treated. In detail my method of examination is as follows: Put the patient on the table or across the bed, in the lithotomy position, with the hips well down so that you will have unencumbered access to the pelvis. After a general survey of the contents of the pelvis it is always best for the examiner to put his right foot on a chair so that he can rest his right elbow on his knee. In this way only can he have absolute control of his hands and be sure as to the degree of mobility and settle all other points he will wish to have clearly in mind. In his manner he can outline with great accuracy the tubes, the ovaries, and the uterus. He can also ascertain the presence of deposits if present in any and all parts of the pelvis, as well as the extent and firmness of the adhesions. It is well to make use, in many cases, of the recto-abdominal examination. By this triple method of examination properly conducted, and the conditions clearly in mind, you are prepared for the proper and successful treatment of the case. In each and every case where the tubes and parametric tissues are involved, do not pass a sound or use any instruments whatever in the vagina unless the patient is properly prepared and the operator ready to complete all operative work immediately. For you know that infection entered by way of the canal and you also know that if you do use the sound or other instrument you will necessarily aggravate the trouble by spreading the disease, and maybe bring on a fatal attack of peritonitis, or pelvic cellulitis.

In acute cases the following is the line of treatment I follow. Bear in mind that this description applies to cases of tubal involvement only, and not to cases where the disease is still confined to the parturient canal proper. Put the patient to bed and keep her there until the soreness and tenderness is controlled, whether it be one week or one month or even longer. You would, of course, give such homeopathic remedies as aconite, belladonna 3x, kali iodatus, some form of mercurius, usually the merc. sol or iodide or hepar sulphur. If the patient is in severe pain decided relief is often obtained by the use of the following suppository—tincture of belladonna 1-6 grain and two grains of opium in each. Always give a good laxative; as a rule I begin with the following tablets, merc. dul. 1 1-10 grain and soda one grain in each tablet. I give two tablets the first dose, repeating the dose, one tablet every half hour, until ten tablets are given. Within two hours after the last tablet I give a saturated solution of Rochelle salts, one teaspoonful every half hour until the bowels begin to move, then discontinue the salts and there will usually be several thin, watery stools. In the majority of cases five or six doses of salts will be sufficient. In case the bowels do not move after eight doses (one oz.) are given I let the patient rest a few hours and then repeat the merc. dul. and the salts. In many cases, especially where the kidneys are not as active as they should be, excellent results follow the use of Hunyadi water. But in all cases of infection in the pelvis it is absolutely essential that the bowels be kept very loose.

In nearly every case decided relief is experienced by the generous use of large quantities of very hot salt and water vaginal douches. In cases where there is an extensive exudate, as there generally is, I use wool tampons, three or four times a week, saturated with twenty per cent. ichthyol and twenty per cent. argyrol and sixty per cent. glycerin. In cases where the exudate is very hard I frequently use iodine locally. These tampons will cure infection in vagina also. If pus forms (and the symptoms will enable you to tell this in time) locate this pus as soon as possible and evacuate it through the vagina by the "Pryor method." It may be well to give you a brief description of this method. Make a good free opening, back of the cervix, with a long pair of scissors. Be sure and not penetrate up through the inflammatory deposits into the pelvic or abdominal cavity. You will be astonished frequently at the



extent of these deposits. Oftentimes these deposits are reinforced by the omentum which almost seems to possess brains and drops down upon this diseased mass as though it put itself there to protect the abdominal cavity proper from infection. Those of you who have done much abdominal operating will readily recall this fact. After you have passed through the vault of the vagina up into the cul-de-sac, with the fingers well protected, work off into each side of the pelvis, back of the broad ligaments, until you have found the pus tubes or abscesses and give these the proper drainage by packing with gauze. It is truly amazing to see how rapidly the exudate will be absorbed in cases of gonorrhea by this method of drainage. This treatment puts the woman in good trim for radical operation later on.

Now as to the advisability of radical operation there is, among our best gynecologists, some difference of opinion. But I am prepared to stand sponsor for, and give in detail, the treatment that I carry out if the patient will allow it. To be sure, the ultimate decision regarding radical operation rests with the patient and friends, but it is your duty to tell them exactly the situation. You need not hesitate to tell them that, after a serious attack of this disease, the woman will generally be sterile, whether operated upon or not, but the chances as regards sterility are certainly improved by operation. By radical operation I mean the opening of the abdomen and removing all tissues that are destroyed by disease. In many cases the removal of this badly diseased tissues will give nature a chance to eliminate the products of disease and so far restore the parts to their normal condition as to make pregnancy more probable. What is of far more significance to the patient is the fact that if there is no radical operation the disease not only *may* but *will* lie dormant and be ever ready to become active upon the proper provocation. In other words a woman with gonorrheal pyosalpinx or hydrosalpinx is never safe from a fatal attack of inflammation until the parts involved are completely removed and all diseased deposits absorbed. If operation is decided upon, each case must be treated as called for: ever bearing in mind that a thorough removal of all infected tissues will preserve the surrounding, healthy tissues, such as intestines, bladder, etc., etc., while the presence of pus is necessarily very destructive. Frequently the ovaries can be pre-

served if they are not already infected. But the continuance of the original disease would surely destroy these. If the uterus is already infected it also had better be removed. Sometimes the ovaries may be imbedded in the exudates but this exudate will be absorbed after the broken down tissue is removed and the ovaries may ultimately become healthy. In most cases the appendix is diseased and should be removed. It occasionally happens, in long standing cases, that the contents of the Fallopian tubes may become innocuous and even converted into hydrosalpinx. Some authorities claim that hydrosalpinx originates in this manner. Do not by any means conclude from this that all cases of long standing are not infectious, for it is true, as Neisser himself states, that the contents of gonorrheal pus tubes may lie dormant for eight or ten years and then develop, under proper stimulus, into great activity. True, these germs are not as virulent as the streptococci, but, nevertheless, they will produce a fatal inflammation many times.

At this point I wish to correct one very common but, withal, very serious error. Most operators tell us to wall off these infected tissues with sponges or, perhaps I had better say, they tell us to protect the abdominal cavity by the use of sponges. This is an extremely dangerous procedure unless we bear in mind the following facts. Whenever pus comes in contact with these sponges, they must immediately be removed and replaced by others. This process must be continued until all pus is cleaned out. If this is not done the sponges soon become saturated with pus and the pressure of the operator's fingers upon these sponges forces the poison into the healthy surrounding tissues and very materially increases the probability of serious infection. As a rule it is best to wash out the abdominal cavity with a saline solution and, if the adhesions have been very extensive and there are large raw surfaces remaining, it is best to put in gauze for drainage, bringing it into the vagina by way of the cul-de-sac, this gauze to be removed on the fourth day, and daily thereafter until the parts are clean; the opening is then allowed to close. This process occupies from one to four weeks.

There are two conditions which I wish to mention that are prone to develop in these cases if they are not operated upon. The first and most frequent danger is that of ectopic gestation. It is really appalling to note how many of these cases are found

by those who do a good deal of operating. I have had as high as three cases a week (in my clinical and private work) and in the course of the last fifteen years I have had hundreds of cases. One other danger is the so-called pelvic hematocele. Of these cases at least ninety-five and some authors say ninety-eight per cent. are nothing more or less than ruptured ectopic gestation sacs. In writing this article I have not tried to follow the beaten paths of the authorities, but have simply outlined my methods, avoiding extensive statistics and minute details. For these you can all consult such works as Kelly and Noble (which by the way is the best work in this or any other language upon the subject of gynecology,—the second volume will be issued this month). But in my judgment individual experience is what should be given in such meetings as this. For it is thus and thus only that the best methods of treatment are perfected and adopted.



## WHAT CAN ORIFICIAL SURGERY DO FOR NEURASTHENIA?\*

BY S. STAADS, M.D.

The disease under consideration may be defined as a depression due to lack of nerve energy. In neurasthenia we have no organic change in the nerve structure itself, but only a functional aberration from the normal condition. The manifesting symptoms of neurasthenia are, e. g., mental depression, headaches, loss of appetite, generally palpitation, superficial respiration, improper digestion, often constipation, pelvic pains connected with the menstrual functions, backache of unclassified types, general weakness and usually cold hands and feet. Taking the group of symptoms all in all, we find a lack of proper innervation.

While we have a large number of valuable means at hand for combating neurasthenia, in my experience orificial surgery, where demanded, promises more than any other single line of treatment and often more than all others combined. The stimulating effect of orificial surgery is immense and will often establish perfect health, if properly performed; but it should not be employed to the exclusion of other prominent remedies.

Orificial surgery pays attention to the pelvic orifices only, for it is here that we find the many small nerve endings of the sympathetic nervous system. The latter, as you all know, dominates over the functions of the involuntary muscle group; it therefore controls respiration, circulation, digestion and elimination. Is it possible to have neurasthenia or any other such disease where these functions are normal? I think not. Our aim must therefore be to stimulate the sympathetic nervous system of proper action, which we can do by removing obstacles to this correct innervation from the pelvic orifices. The pelvic outlets must be normal in structure and form. In the male a phimosis or paraphimosis must be split, a long prepuce should be circumcised, a narrow meatus has to be enlarged.

In the female the clitoris must be free from adhesions of its hood, which latter must either be peeled back, or if too tight, should be slit on its dorsum and stitched in an opposite direc-

\* Read before the Nebraska State Homeopathic Medical Society.

tion. If the female meatus is too narrow, introduce a pair of hemostatic forceps closed and open them gradually, while withdrawing them. The hymen may have irritated spots on it, so that it may become necessary to remove the hymen in toto. Or in its torn state, the carunculi myrtiformes may be inflamed and should then be snipped away. A lacerated perineum must be repaired, for a solid vaginal floor is a necessity from a gynecological standpoint.—Erosions of the cervix uteri need proper treatment by means of internal and external medication, the positive pole of the galvanic current and if necessary curettement, and in very rare cases even amputation of the cervix may be demanded.—Lacerations of the cervix are a prolific source of sympathetic nervous troubles. It is not the part that has healed that requires our attention so much, it is that part of the tear, which has filled up with scar tissue, into which small nerve-endings of the sympathetic nervous system pass. Scar tissue being hard and unyielding will exert more or less pressure and irritation, which latter extends along to a sympathetic ganglion and from there through the communicating branches reaches the cerebrospinal nervous system. It becomes therefore necessary to split the scar which is usually situated bilaterally, then dissect out the plug, taking care to follow it to its uppermost extremity, which sometimes extends to the inner os. When all scar tissue has been removed, the os is reshaped and the new wound is stitched up with chromicized catgut. The resulting linear scar of healing per primam intentionem is very thin and will be absorbed in a very short time, so that reflex trouble from this source need not be feared.—The condition of the endometrium may be such that curettement is demanded and after that, a packing of the uterus with cordine can be recommended for its stimulating and tonic effect. Contraction of the flabby uterus are the indications for the removal of the packing usually after twenty-four to forty-eight hours.—A displaced uterus usually demands correction to which Kelley's ventro-suspension is usually well suited for small uteri during the childbearing age, and ventro-fixation for large organs and past the climacteric period.

Rectal pathology, to which both sexes alike are subject, is most always a causative factor in sympathetic reflex troubles. Since there is seldom local pain or discomfort, the patients do not call our attention to the rectum. A physician should there-

fore never forget to examine the rectum in cases of neurasthenia and often he will find piles of all three varieties, as also little tabs on the mucous membrane, called papillæ. All this pathology should be removed, whether the patients are conscious of its existence or not, for they do cause reflex symptoms in a great majority of cases. Associated with this condition we find almost invariably tight sphincter muscles, which cause an undue loss of nerve-energy. Dilate such tight sphincters sufficiently. Little recesses are frequently found and by some anatomists are considered normal anatomy and called crypts of Morgagni. Since they are not found in a large percentage of human beings and their removal is generally followed by the improvement of many reflex symptoms, we are forced to consider them pathology and always should we remove them when found. Their pocket-shape retains fecal matter, which there decomposes or ferments and may give rise to further pathological developments.

Having made use of all the advantages orificial surgery offers our neurasthenics, and combined with the treatment also all the good other systems offer, we will have the great satisfaction to see even our most desperate cases improve and get well.



### SOME NEW WORK IN 1907.

BY C. MacLAURIN, M.D.

I venture to set out here as briefly as possible the conclusions to which the past year's work has led me, with a criticism of new methods tried during that period.

Fractures.—Splints are now used as little as possible, and massage is begun when the fracture is reduced. Taking a fracture of both bones of the leg as typical, it is reduced under anesthesia, every means being used to obtain accurate setting, including, of course, the X-rays. The leg is then put between sand-bags, and gently massaged for ten minutes. Every morning the house-surgeon examines it carefully, correcting any deformity which may have occurred, and then holds the limb in accurate position while it is massaged; the time of massage being gradually increased till at the end of a week it is getting the full half-hour, with gentle strength. The patient is en-

couraged to use the muscles of the limb from the first, the only warning being that he is not to cause himself pain. At the end of three weeks it is put in a light Bavarian splint, and the patient is allowed up on crutches. This method is troublesome, and throws a great deal of extra work on to the house-surgeon; but the results are: no wasting of the limb, little callus, perfect position, rapid restoration of function. We have observed a well-marked Pott's fracture in a patient who was able to walk practically perfectly in eight weeks. No stiffness of a joint is seen, there are no adhesions, and no tendency to gangrene of the heel or involvement of nerves. I have had no case of non-union in any fracture thus treated; in fact, union occurs with remarkable rapidity.

**Passive Congestion.**—This method of treating inflammation was first proposed by the great German surgeon Bier about 12 years ago, but made no headway till last year, when a remarkable article written by a medical student called attention to the extraordinary perfection to which Bier had brought his results. I adopted it some months ago, but unfortunately there have been few cases to which it was applicable. In one case of extremely virulent streptococcal infection of the arm the process stopped immediately we applied the passive congestion. A case of chronic synovitis of the knee seemed to derive some benefit. Two cases of very obstinate gonorrheal arthritis recovered rapidly under its influence. The tentative conclusions which appear to have been reached at home are that Bier's treatment is of great use in tubercular disease, of considerable benefit in acute infections, and practically a specific in gonorrheal arthritis. With these conclusions I am prepared to agree, because the method seems to be founded on accurate pathological reasoning, and so far as I have seen it does good.

**Operative Technique.**—We use masks, gloves and sleeves for all except the most trifling operations, and have done so since May, 1906. No suppuration has occurred in any clean wound thus treated last year. It seems likely that the use of these aseptic precautions will become general in the course of the next few years.

**Peritonitis.**—Since June, 1906, I have used the Fowler position and continuous injection of salt solution into the rectum constantly. The present writer used these methods more than a hundred times during the past twelve months, and in his

opinion they constitute the greatest advance made in surgery for many years. It is not too much to say that we now have the mastery over peritonitis arising from the colon bacillus or the staphylococcus albus, and how great a blessing that is everyone who remembers the conditions of even two years ago will admit. In streptococcal infections it appears to have little effect; as of old, these seem to die rapidly of overwhelming poisoning. I have used the continuous saline in all sorts of profound toxemias, such as poisoned arms, puerperal septicemia, and others, and also in severe hemorrhage, and the results are satisfactory. There has been no mortality in twenty cases of diffuse peritonitis arising from ruptured appendices.

**Drainage in Abdominal Operations.**—This has been almost abandoned. I have never regretted not draining, whereas I have often been sorry for leaving in a tube. Several times I have operated on two cases of appendiceal abscess on the same day, draining one and not the other, the two being otherwise as like as possible. In every instance the undrained case left the hospital several weeks before the drained. At this moment there is a patient still draining in one of my wards, while one who was operated on the same day with a much worse condition has long left the hospital and is walking about perfectly well. One drained case suffered thirteen weeks of dangerous illness, with fecal and biliary fistulæ, pocketing, retro-colic cellulitis, and hectic, and I have since operated on her for ventral hernia; while a similar case, done on the same day and not drained, was out in three weeks.

**Appendicitis.**—The technique formerly described has not been altered; the smallest possible McBurney incision; careful packing of the abdomen; removal of the appendix in all cases; manipulations to be done entirely by sense of touch, the wound not being opened up to look into it; invagination of the cecum over the stump; two pints of salt solution in the abdomen; as little handling of the intestines as possible. There were eighty cases; one died on the last day of the year from post-operative intussusception. This rare if not unique complication is reported elsewhere.

**Hernia.**—The Bassini operation, with or without transplantation of the sac, still holds the field. There can be no doubt that Hamilton Russell's theory of the perforated sac is essentially correct in most cases, and we in young cases now simply open



up the canal, ligature off the sac high up inside the abdomen, and sew up the external oblique aponeurosis. I have seen no recurrence from any such operation. Strangulation appears to be rather rare nowadays; at any rate I saw only one last year, in an old umbilical hernia. This case recovered. The method adopted in umbilical hernia is to sew all the layers separately so as to overlap each for three-quarters of an inch. In femoral hernia the sac is simply tied off as high as possible, and the wound is closed. This seems to answer as well as any other method.

**Laparotomy Incision.**—Attempts have been made to limit the size of incision, and with practice it has been found possible to operate through a wound which would have appeared far too small two years ago. The advantages are—less shock, less risk of hernia, and less scar. The ordinary case of pyo-salpinx in a moderately thin woman is now done through a two and a half inch incision. In twenty cases I used the transverse incision through skin fascia and aponeurosis, so placed that the superficial scar is hidden in the pubic hair. This is a satisfactory wound for non-septic cases; but it takes some minutes longer to make than the vertical incision, does not give sufficient room for the removal of large tumors, and opens up wide fascial planes, thus increasing the risk of sepsis. On the other hand, after six months it is practically invisible, and it is difficult to see how a hernia could form when it is employed.

**Gastric Ulcer.**—A reaction has very properly set in against the tendency to subject these cases to indiscriminate operation. There is a radical difference between gastric ulcer on the one hand, and gallstones, uterine fibroids and appendicitis on the other. In the latter class of case the operation is hardly at all dangerous in competent hands, though, of course, there must always be a slight unavoidable mortality, and the cure is certain. But the operation of gastro-enterostomy, even with the most experienced surgeons, is likely to have an appreciable, even though small, mortality, while we cannot certainly promise a cure. Again, medicine cannot cure a case of appendicitis with adhesions, a fibroid, or a thickened gall-bladder, but it can and does repeatedly cure gastric ulcers, or at any rate conditions which cannot be distinguished clinically from true ulcer. It seems to me that the function of surgery is to relieve those old cases of adhesions which make life a burden to patients. I have

operated on two in the last year, both of which are now practically well. Another class of case which appears to demand operation is that in which severe symptoms persist after long and skilful medical attendance. None of these came under my care last year, and I am inclined to think that their frequency is in inverse ratio to the care and patience of the attending physician. It may be thought that the view here stated is too conservative, and that the operation of gastro-enterostomy is not so serious as I suppose, and I am well aware of the long series of cases published by some surgeons with remarkably small mortality but yet when a surgeon of the eminence of Kroenlein gives the mortality of operations on gastric ulcer as from eight to ten per cent., his statement must be respected. In matters of this sort one does well to note the statistics given by German surgeons, because of that habit of scepticism which has put Germany incontestably at the scientific head of the world.

**Adherent Retroflexion.**—The method of intra-abdominal shortening of the round ligaments by merely doubling them on themselves and sewing them together has not proved satisfactory in my hands, as several relapses occurred. This appeared to be due to the weight of the uterus pulling the round ligaments out from its attachment within the inguinal canal, where it is naturally somewhat thin; another method was therefore tried. The round ligament was doubled, and a small hole made in the parietal peritoneum just alongside the internal ring. The doubled round ligament was then drawn through this opening into the inguinal canal, and pulled across the abdomen beneath the aponeurosis, in front of the muscular belly of the rectus, till it reached the middle line, where it was sewn to the corresponding ligament from the opposite side. A threefold thickness of round ligament was thus secured throughout the whole of its course. This method holds the uterus forward in excellent position, but it is open to several objections. In one case the end of the ligament appeared to necrose, doubtless owing to the considerable strain imposed upon it; there was, however, no falling back of the uterus. The dragging of the ligament through the inguinal canal may possibly conduce to the formation of an inguinal hernia; and it remains to be seen whether the lateral pull of the ligaments across the abdominal wall will in any way weaken the cicatrix at the point of union of the aponeurosis, and so allow the production of a ventral hernia.

I therefore propose to attach the double ligament by sutures to Poupart's ligament at the entrance of the canal. By this means I hope we shall be able to preserve the sphincter action of the ring, while at the same time securely fixing the ligament and avoiding tension.



A CASE OF CONGENITAL ABSENCE OF THE  
VAGINA—HEMATO-SALPINX AND SECONDARY  
PYOSALPINX.\*

BY GEORGE BURFORD, M.D., AND WILLIAM SPENCER COX, M.D.

The ensuing case well illustrates the disadvantages of temporizing operative treatment. However plainly such treatment may follow along the lines of least resistance, the plan is not always in the best interests of the patient. It may spoil existence, burden the years of the patient with acute and useless pain, and ultimately, as in this case, endanger life itself.

At the present time the patient is a tall, well-developed single woman of thirty-three. She first came under our notice some years ago, the history of our connection with the case being as follows:

Notes by Dr. Cox.

I first saw L. T., in 1900, when, in pursuance of her duties as a trained nurse, she was sent to nurse a chronic case of heart disease I was then attending. I soon noticed that at certain periods she was suffering great pain and was obviously unfit to attend to her duties. After some time she confided to me the cause of her troubles, but although after this she nursed many cases for me it was long before she would allow any examination, so fearful was she of the intense pain which any interference occasioned. At last, however, growing much worse, she sought my help. On examination I found, as instructed, that both vagina and vulva were absent, but in the middle of the perineum was an unhealthy-looking shallow aperture, and deeply buried in this I could feel a hard instrument of some sort. Under cocaine and a whiff of chloroform I extracted this

\* Presented to the Section of Surgery and Gynecology. Transactions of the British Homeopathic Society.

instrument, not without difficulty, as the tissues were quite adherent, and I now pass it round for your inspection. It is the instrument—very unsuitable, I think—which Dr. Lewers had invented and placed in that position in the vain hope of keeping open his artificial vagina. Great relief was experienced, but I knew we could not rest there, and I consequently urged an interview with Dr. Burford.

But again some time elapsed before I could gain the patient's consent to this course, but at last reason prevailed and she placed herself unreservedly in our hands.

A detailed account of her symptoms will prove interesting, and at our request she has written down her earlier history, which, as she is an acute observer, we give verbatim:

#### Notes of L. T.

Acute monthly pains started at fourteen, but without any discharge; severe backache and bearing-down pains, which lasted three to ten days every month, getting so severe that I had to leave school and have medical attention, hot baths, etc., but with no relief.

Saw Dr. R., and had an examination, when he found there was no vagina of any description. He said I had better see Dr. Lewers and have an operation to allow the period to pass, but Dr. Lewers, after examination, said there was no fluid to come away, and therefore would not operate, but gave several medicines to relieve pain.

After two years of intense suffering, and my getting very thin, Dr. Lewers was persuaded to perform an operation, though he was still under the impression that there was no fluid to come away, but thought there might be some growth in the womb.

Operation took place at the age of sixteen and a half. Dr. Lewers found a great deal of very dark thick fluid in the womb and tubes. He made an artificial vagina, which he said was large enough to "get his fist in," and he kept this open by plugging, etc., until healed sufficiently to admit of an instrument being inserted. It took five months for the place to heal.

I had the period with practically no pain afterwards, but slight backache every month regularly. I had the instrument changed every month to start with, then every two or three months, for four years, but finding later that the instrument

"grew in" each time, I preferred to leave it there rather than submit to the pain of having it wrenched out, as I was then training as a hospital nurse. Each month the same bearing-down pain, backache and sickness first thing in the morning started during the period again; so much so I had to give up my work for a time and see Dr. Cox, who, on examination, found the instrument grown in and the parts very inflamed. He removed the instrument, which gave great relief for a time. He then said it was very necessary I should see Dr. Burford, who, after examination, said an operation must take place.

Here we pause in the patient's narrative to describe her condition at this stage.

The external parts were otherwise well developed, but there was absolutely no trace of any vulvar aperture or vagina, but a conical puckered depression about 1 1-2 inches deep presented itself in the perineum. The base of this depression, as it debouched on to the skin, was about the diameter of a florin.

The whole excavation had the appearance of a small shallow crater, and ended in what seemed a blind extremity. We say seemed, for though some periodic discharge was squeezed through each month, repeated and careful probing could find no aperture of exit. We concluded we had to deal with a sinuous contorted fistula, unfindable by examination, and so turned our attention to the internal reproductive organs.

Operation was accordingly carried out in 1903; the abdomen was opened, and a pathological scene presented itself.

The approach to the pelvis was blocked by a tangled mass of dense adhesions, obscuring the outlines of the viscera, showing clear evidence of former intense peritonitis.

Beginning work on the left side, these adhesions were worried through, a process of extremest difficulty, occupying some considerable time. Gradually the irregular outlines of a diseased and distended Fallopian tube and the accompanying ovary began to present themselves, and, after most careful detachment, were successfully removed. The uterus and the right appendages were now examined, but as similar dense adhesions completely surrounded them, and examination revealed no notable enlargement, the abdomen was rapidly closed, as the patient's condition was causing us some anxiety.

The shock of separated adhesions was considerable, as is

usually the case when these are very dense. Intravenous transfusion was carried out, some four pints being conveyed into the left median basilic vein.

The patient at once began to rally, the recovery proceeded with no further notable incident, and the patient left hospital. As the chief pathological factor in the pains had been removed, we hoped that the periods would now proceed in a relatively painless manner.

Let us again pick up the thread of the patient's narrative:

#### Notes of L. T.

I afterwards found great relief for two years; after then the same pains gradually returned, but with greater force and much sickness, lasting ten days to two weeks at times, and always necessitating my remaining in bed for four days to one week during each period. I could now only get relief by having morphia and hot baths during the period, and was unable to take solid food or get much sleep, but when the period was over I felt very well and again able to take up my work.

About once each year I got a particularly bad attack, which would last for three weeks, apparently caused by the period not coming on, although all other symptoms were present, with great retching first thing in the morning and sometimes during the day. At these times I was not able to eat or sleep, though I had hot baths and morphia for three or four days, when the period would appear and last about three days.

I had one of these attacks in September, 1907, which lasted two months and caused agony for five weeks, the period not coming on properly, but being on and off for two weeks; when it did come, after poulticing, etc., it was dark in color, thick, and lasted five days. During the five weeks I had great sickness and could not keep even liquids down, and had hardly any sleep, having morphia morning and night. •

Here ends the personal narrative.

When the patient was sent into hospital by Dr. Cox in December, 1907, she was evidently much reduced in health; her pulse was weak and feeble, her temperature rose over one hundred usually once in the twenty-four hours, and her general condition caused grave anxiety to us. There was, per rectum, a very

well-defined swelling felt on the right side, and the summit of this swelling was easily palpable from the abdominal side.

Dr. Moir saw the patient repeatedly with us, and after about a month's probation operation was carried out. Dr. Hey performed transfusion.

On opening the abdomen a bulky mass completely surrounded by adhesions was disclosed on the right side. With difficulty a clear space was made, and as the swelling was fluctuating it was tapped, and several ounces of foul sticky pus withdrawn.

What we had to deal with was a pyosalpinx which had developed since the last operation on the non-operated side. Now commenced one of the most difficult and delicate procedures in pelvic surgery. This pyosalpinx of some dimensions had developed from the congenitally defective tube; beneath the peritoneum and for a considerable part of its area it had to be separated from the bony pelvis.

This enucleation required the utmost tactus eruditus to avoid a tear or rupture of the sac wall. At length the whole neoplasm was disinterred from the depths of the pelvis and removed. Attention was then directed to the uterus, which was removed also, and the gaping, bleeding area stuffed with gauze, which was left protruding through the abdominal incision.

Again the patient suffered severely from shock, and again about four pints of saline fluid were transfused, this time into the other arm—an operation carried out most skilfully by Dr. Hey; and the patient put back to bed a little later.

But in spite of this and other attention the patient did not rally, and during the afternoon her condition caused such anxiety that Dr. Pudrom, the house physician, again transfused, this time subcutaneously, to the extent of three pints.

This was done slowly so that no fluid remained unabsorbed; and the effect was to induce a gradual and maintained improvement in the patient's state. For three days the condition was critical; thereafter the progress was unbroken; and after completing her recovery the patient went away from town late in January, free from ache or pain, and with no likelihood of any recurrence of them, as the periods had been eliminated from the functions of the body.

We may here say that the uterus, an ill-shaped undersized organ, was removed down to near the level of the internal os.

This case well illustrated the disadvantages of so-called constructive operations in cases of congenital defect; which, as in this instance, often give rise to persistent pain and trouble, threatening permanent ill-health to the patient.

Had the imperfectly developed uterus and tubes been removed in the first instance and the ovaries left behind, long years of disabling pain and a much more serious operation would have been obviated.

The advantage of doing a plastic perineal operation in such a case as this, without taking into account the enormous risk of a pregnancy which might have ensued in case of marriage, is still to seek.

Finally, we cannot emphasize too vividly the use of transfusion as a life-saving measure in surgical and other cases. In this instance the patient without doubt owed her life on two occasions to this procedure—a procedure which, as conducted by Dr. Purdom, is available for every physician, however hardly worked; and as conducted by Dr. Hey, available for every surgeon; controlling not only the shock during operation, but also the post-operative lack of rallying power which so often proves fatal. Were this measure, of sovereign value, more frequently used, and used again and yet again in acute crises, we should have less of the formula adopted by a distinguished surgeon, now dead, who described fatality from shock to the friends as “The patient passed peacefully away the same evening.”

#### *Discussion.*

Dr. Byres Moir enquired whether it was usual, when there was such a want of development of the genital organs, for the patient to have such fine physical development otherwise as Dr. Cox's patient had. She was a fine, handsome, well-developed woman, and he enquired whether it was a usual experience to find such a condition with a malformation and such small internal organs as in the case described.

Dr. Granville Hey said he had seen four cases—one of which he had at present under observation—in all of which the patients were well developed physically with the exception of the pelvic organs. In connection with the constructive operation he thought it was altogether wrong to make a sweeping assertion against that operation; the result depended almost



entirely on the amount of constructive work that had to be done. He had seen several cases in which the constructive work done had been perfectly efficacious for the purpose for which it was intended. In a case like the one under discussion, where there was complete absence of the vagina, it was a different thing altogether. In Vienna he had seen a case where there was a vagina present to the extent of about 1 1-2 inch, and that was very successfully operated on because the uterus happened to be low down, and, comparatively speaking, there was very little tissue to be traversed to get to it.

Dr. Neatby congratulated the authors of the paper on the very successful issue of an extremely difficult case. He had had the advantage of examining the patient once with Dr. Burford in the ward, and it certainly suggested a good deal of what was afterwards found to be the condition—an extremely difficult and almost impossible condition with which to deal, a fact which was all the more credit to the operators for the success which they had obtained. He would like to answer Dr. Moir's question as to development. He (Dr. Neatby) had seen a considerable number of cases of malformations of one kind and another, and he was quite sure it did not follow that the absence of either the primary or the secondary sexual organs was accompanied by any corresponding deformity or want of development in the general system. One could have an entire absence of the uterus and ovaries and yet have well-developed external organs and thoroughly good physique; and one could have an absence of the external genitalia with well-developed internal genitalia and similar good development of the general body form. He thought Dr. Hey had made a judicious remark with regard to the operation in question.



## THE SURGICAL VALUE OF IODINE.

BY WALTER T. DANNREUTHER, M. D.,

Assistant Surgeon St. Bartholomew's Clinic of New York City.

Iodine is obtained from seaweed in the form of mineral iodates and iodides. Every physician is familiar with its physical and chemical properties, physiological action, and therapeutic uses and advantages. The efficacy of the internal administration of iodine, especially in the form of the iodides when indicated, is well appreciated, and I could add little or nothing to what is already known in this direction. Probably physicians have equally as much knowledge of the indications for iodine in surgical conditions. But have they fully appreciated the value of the use of iodine in surgery? From my experience with iodine in hospital and clinical work, I have been convinced that it is an agent of high germicidal potency, one of the most valuable antiseptics we possess in our armamentarium, and one of remarkable penetrating power. I have used it extensively and for a variety of conditions, and the results have been exceedingly gratifying. A number of practitioners object to using iodine freely because of its cost. But we have one form of iodine available for surgical use, i. e., the tincture, which is comparatively cheap; for whether we are using it full strength or well diluted, only a small quantity is required. Of course, the ideal "iodine antiseptic" is the pure iodine vapor. But as far as I am aware, no compound has yet been introduced which will yield iodine vapor in any considerable amount, except iodine itself. And used in this manner, it would indeed be an expensive antiseptic. Iodoform was formerly believed to have this property, and was largely used in surgical dressings as a dusting powder and incorporated in gauze. Although iodoform contains 96 per cent. iodine, the consensus of opinion to-day seems to be that iodoform is practically valueless, except for such quantity of iodine as may be liberated and come in direct contact with the tissues. This occurs very slowly as a rule. But the only four cases of iodism I have seen (iodine being present in the new) have occurred as the result of the use of iodoform. So are we not justified in concluding that although the rapid absorption of

iodine is the very thing we wish to promote, when this occasionally does take place, we are apt to get the full toxic effect? Aristol, a substitution compound containing 45 per cent. iodine, is another agent that has been used to considerable extent as a dusting powder, in preference to iodoform. Its antiseptic powers are feeble, it is expensive, and the results from its employment have not been satisfactory. Iodol, nosophen, eudoxine, and many others have all been used in the same manner. But why depart from our pharmacopeia unnecessarily? I have used the ordinary tincture (U. S. P.) repeatedly and have not had one single case of iodism occur. It is imperative that we obtain a freshly prepared tincture (as the alcohol evaporates on standing), and be careful to use enough but not too much. Do not apply as much to mucous membranes or granulation tissues as to the unbroken skin. Used with care, except for an occasional case of idiosyncrasy, we should never see even the slight indication of iodism. I have found a watery solution of iodine, made by adding ʒi of the tincture of iodine to Oii of water, very useful.

### **Minor Surgery.**

The ordinary tincture of iodine is probably more frequently utilized as a counter-irritant for localized uncomplicated inflammations, than any other class of pathological conditions. We find it very useful applied to the superimposed skin, in simple bursitis, synovitis, teno-synovitis, etc. It is also used advantageously in similar medical conditions; such as acute pleurisy and sciatica. The skin is lightly painted with tincture of iodine and allowed to dry. Desquamation will occur in a day or two, and we may then repeat the application, if necessary. For these conditions I have frequently employed a modification of the tincture, viz., Elsberg's solution, which is a 20 per cent. solution in alcohol and ether, while the tincture is a 7 per cent. alcoholic solution. This will produce the same result as three coats of the ordinary tincture; it dries rapidly, and will not soil the clothing. I have found this preparation exceedingly valuable in the treatment of lymphangitis (before pus, of course).

Every hospital interne, especially the house surgeon of a city hospital, has an almost unlimited number of wounds of all descriptions to care for during his service. In my service

at the Jersey City Hospital, I had perhaps eight hundred patients with such wounds. We all know what the ordinary scalp wound looks like; laceration, hemorrhage, dirt, hair, and perhaps vermin. And even with thorough cleansing, suture, and gauze dressing (and "dusting-powders") many of these wounds become infected, and if neglected, subsequently, the pus may undermine the whole scalp. I have made it my practice in all scalp, incised, punctured, and lacerated wounds after thorough shaving, washing with green soap and water, and otherwise procuring cleanliness as nearly as possible, to inject tincture of iodine directly into the wound, with an ordinary medicine dropper. Enough sutures are then introduced to obtain complete coaptation, and a wet gauze dressing applied. It is important that this dressing be kept wet until primary union has occurred. Every such wound treated in this manner, which has had the proper after-treatment faithfully and conscientiously carried out, has healed by primary union. I consider this the very best method of procuring sterilization of a dirty wound. A case which has had dirty instruments, etc., used at the second or third dressing we cannot expect to recover in this manner. And I do not include such conditions as a complete laceration of the thigh, from Poupart's ligament to the knee, where there is a great deal of contusion. Here, sloughing naturally occurs, and ioline or any other such agent will not prevent it. It will, however, limit the formation of pus. But free drainage with constant hot wet dressings is a much better procedure than sutures.

I have had twelve cases of erysipelas. Each one was treated by painting the eruption and a generous border of the healthy surrounding skin with tincture of iodine, and in no case was there any extension of the erysipelatous rash. Of course, appropriate internal medication was used in conjunction.

Iodine will be found useful for stimulating sluggish granulations; such as an indolent ulcer. Apply pure tincture of iodine directly to the granulation tissue. In the treatment of gangrenous ulcers, the direct application of tincture of iodine will limit the extension of the process, hasten sloughing, lessen the discharge, and act as a deodorant.

**Major Surgery.**

Iodine has been used in many ways as a method of sterilization for the hands. Perhaps the most common is thorough scrubbing with green soap and water followed by immersion of the hands in a 1 per cent. watery solution of iodine and potassium iodide. Jeffries, of the New York Polyclinic, found by bacteriological laboratory experiment that this will render the hands sterile in 30 seconds. The operator may dip his hands frequently into a basin of the iodine solution during the course of the operation. The amount of staining of the skin is inconsiderable, and may be readily removed with ammonia water. In fact, some operators use the full strength tincture in this manner. In the *Deutsche Zeitschrift f. Chirurgie*, Leipsic, LXXXVII, Nols. 4-6 Heusner recommends a mixture of iodine and benzine, used in this way, as being superior to all other methods. His formula is iodine 10 gm., benzine 750 gm., and paraffine 250 gm. He pours half a pint of this mixture into a porcelain dish, and scrubs his hands with it.

Tincture of iodine is an excellent agent for disinfecting the skin before an incision for laparotomy, especially in the region of the umbilicus. One application with a camel's hair brush is all that is necessary. Heusner uses his mixture suggested above for this purpose also.

One of the most valuable ways in which iodine has been recently utilized is in the preparation of "iodized catgut." Claudius of Copenhagen first devised this method of preparing catgut. He took the raw strands and immersed them in a watery solution of 1 per cent. iodine and 1 per cent. potassium iodide, and allowed them to remain in this solution until he wished to use them. But if left for a considerable length of time, the catgut becomes very brittle. Alexis V. Moschowitz of the Mt. Sinai Hospital modified Claudius' procedure, in that he leaves the catgut in the solution for 8 days only, and then keeps it in dry sterile gauze. The advantages of catgut prepared in this manner are, that it is antiseptic as well as aseptic, its tensile strength is increased, and it is exceedingly cheap. Willard Bartlett further modifies this method, by immersing the strands in liquid albolene, and heating over a sand bath at a temperature of 320° F. for one hour. This "toughens" the strands, increases their pliability, and gives us a thoroughly satisfactory suture material.

Goelet, of the New York School of Clinical Medicine, uses the watery solution (3i of the tincture of Oii water) for irrigating the abdominal wound after closing the peritoneum, and has found it very satisfactory. My own personal experience in this respect has been somewhat limited, but I believe it to be an excellent means of securing sterilization of a laparotomy wound.

### Gynecology.

I know of no other single agent as valuable as iodine in the early stages of gonorrhea in the female. To Goelet the credit is due for introducing this method of treatment. I followed his technique in all such cases occurring in my hospital service, and the results were brilliant. The patient empties her bladder, and a solution of iodine (3ss of the tincture to Oii of water) is injected directly into the urethra and bladder, allowed to remain for a minute or two and then voided. This is repeated daily, until edema of the vulva appears, and then replaced by potassium permanganate douches 1-5000. The bowels, diet, habits, etc., are to be regulated in the usual way, and Basham's mixture administered internally.

Iodine will be found very valuable incorporated in a tampon (3i of the tincture to 3iv of glycerine) as a method of procuring pelvic counter-irritation.

After a curettage for endometritis, an intra-uterine douche of the watery solution (3i of the tincture to Oii water) will limit oozing, contract the uterine muscular fibres, and render the uterine cavity sterile. After a curettage for abortion, I have frequently swabbed out the uterus with the full strength tincture. Should the abortion be septic, an intra-uterine iodine douche t. i. d. will control the septic process better than anything else that I know of.

### Obstetrics.

After labor, an intra-uterine iodine douche at 106° F. will act as a prophylactic against possible infection and post-partum hemorrhage. It stimulates and hastens contraction of the uterus, acts as an antiseptic, and contracts the mouths of the blood-vessels. I have used such a douche as a routine procedure, immediately after the expression of the placenta, in all my cases, and as yet have not had post-partum hemorrhage

or puerperal sepsis occur in any instance. During my hospital service, there were two cases of post-partum hemorrhage admitted as such, and the intra-uterine douche at 116° F. readily checked the bleeding. There were also three cases of puerperal sepsis admitted to the hospital as such. In each one I used a tri-daily intra-uterine iodine douche, and the result was three uneventful recoveries. It is always wise to take the precaution to lubricate the adjacent skin area and buttocks with vaseline, or some other emollient, to guard against a possible excoriation of the skin by the iodine.

### **Genito-Urinary Diseases.**

Tincture of iodine applied to the skin over a bubo (before pus of course) will produce an effect as in any other lymphangitis.

The tincture mixed with glycerine has given good results in the treatment of hydrocele. The sac is first emptied of its contents, the mixture injected, and then allowed to escape. This causes considerable pain, so that it is well to use a general anesthetic.

As yet I have had no experience with iodine as a method of treatment for gonorrhea in the male, but feel confident that in the future iodine will be found as valuable for treating this condition in the male as it is for the female. Sternberg (*American Journal of the Medical Sciences*, April, 1883, p. 323) experimented with gonococci and found that iodine entirely destroyed them in a solution of 1-4000.

I make no claims for originality in any of the methods of using iodine enumerated in this paper. And perhaps I have omitted to mention a number of ways in which it may be satisfactorily utilized. There are many other conditions in which we may use iodine to advantage after future investigation. Why not flush out the peritoneal cavity with a weak solution of iodine, after laparotomy for peritonitis? Would not the subcutaneous injection of iodine hasten the process in a delayed-union fracture? Would not iodine be a satisfactory agent to apply to a carbolic acid burn, because of its marked antagonism to carbolic acid? My sole purpose has been to report the results of the use of iodine in my experience, and to instigate a little more interest with this agent than it has heretofore received. I do not believe that the value of iodine in surgery is as generally appreciated as it deserves, and offer

this paper with the hope that it may further experimentation with its practical application in surgical conditions.

### **Gastric Ulcer.**

For a number of years the position of honor in medical discussions has been usurped by the question of appendicitis, its early diagnosis and its operative or medical treatment. Although we will undoubtedly hear from this subject again, most of us have gained conclusions and controversy is quiescent. We might well, then, shift our attention toward the other end of the nutrient canal, and study a condition which is capable of developing the same discussions on early diagnosis and the occasion for operative measures.

Gastric ulcer, round ulcer of the stomach, peptic ulcer, as it is variously known, has probably been overlooked by each of us in the past as was, or perhaps is, appendicitis. When Ewald claims to have seen and treated 1250 cases; when the collected reports of pathologists show that 1-5 per cent. of all cases coming to autopsy show ulcers or their cicatrices, we may well ask ourselves whether we have not failed to diagnose ulcers among our dyspeptic patients. May we not expose such, through lack of a diagnosis, to the dangers of improper feeding, hemorrhage, and perforation; and it is not our duty to cultivate the ability to suspect these cases in their early stages?

Gastric ulcer is a progressive tissue necrosis. Omitting tuberculosis and syphilis as causes, the important factors may be considered under two heads, chlorotic and mechanical. Common to each class is an unknown essential, regarding which there is much speculation. It is the lowering of vital forces either general or local such as is antecedent to every disease, and which the homeopathic remedy particularly combats. It may be the lack of an antibody such as is usually found in the gastric mucous membrane, or, as Stockton suggests, there may be caused a trophoneurosis, such as is found in herpes facialis occurring in mild infections. In these days of study about opsonins this factor may soon be discovered; and at any rate, the influence of the nervous system is worth remembering.

In most cases of acute simple (uncomplicated) ulcer, of which 75 per cent. occur in women, chlorosis or anemia is a con-



spicuous factor, the precise manner of its influence being unknown. Such occur mainly between 20 and 30 years of age, and under proper, long continued medical treatment tend to cure with little or no sequelæ. Later in life, between 30 and 40, the traumatic factor comes more into play, and men (3-1) are the chief victims. Here occupation has weight, as, for example, the compression or bruising of the stomach against the rigid spinal column in shoe-makers, basket-makers, street-cleaners, or the position of writers and sewing women who sit doubled up or wear tight corsets. Obstruction to circulation, thrombosis, endarteritis, etc., are possible factors, and even bacteriological infections are being studied.

Hitherto great stress has been laid on the frequent presence of hyperchlorhydria as a causative influence. But so many cases have been found of even fatal ulcer with low acidity and feeble digestive power, and such an overwhelming number of hyperchlorhydria with no ulcer, that the theories have been abandoned. The acidity is now usually considered due to reflex irritation of the secretory cells by the gastric ulcer or by the resulting pylorospasm or stasis, and its influence to cause pain and prevent healing is its chief interest.

Whatever the cause permitting it, we have autodigestion of a portion of the stomach varying in size from a dime to a dollar or even much larger; sometimes round, hence its name—round ulcer of the stomach; more often oval or irregular, depending on its location. Most cases are found near the pylorus or on the lesser curvature. The sides of the ulcer slope sharply to the base, and in chronic cases may become through the mucosa, submucosa, muscularis, subserosa, and thickened or calcified. The tendency is to progressive necrosis peritoneum. During this process there may be erosions of vessels large or small, causing proportionate hemorrhage or perchance perigastritis with adhesions to neighboring organ, liver, diaphragm, pleural and pericardiac cavities, spleen, pancreas, etc., etc. Finally a carcinoma may develop in the degenerated tissue of an old chronic ulcer. On the other hand, if conditions are made favorable, reactive inflammation with cicatrization begins. An acute ulcer may heal with little scarring and be heard from no more. But in a chronic ulcer there is extensive cicatrization, distorting the stomach, narrowing or closing the pylorus, should it occupy that situation, and pro-

ducing hourglass stomach if at a distance from the pylorus. Stasis and dilatation of the stomach naturally follow the stricture. The curative action may be only partial, leaving a chronic ulcer with tendency to remissions. On the other hand, ulceration may be multiple, two or more occurring at the same time or at separate times.

The three cardinal symptoms with which we are all familiar, pain, vomiting and hyperchlorhydria, are still the chief features in the diagnosis, but several important observations regarding their peculiarities have been made. The pain is usually real pain, cutting, burning, boring, gnawing, though it may be a late symptom, preceded for weeks by mere distress. Ewald says that painless cases have been observed. The pain is located in the epigastrium, extends directly to the back or may be to either side or toward the left shoulder. Pressure, even of clothing, aggravates. It is of sudden onset and sudden relief. Dependent on taking food, its severity varies as does the character of the food taken as regards hardness, heat or cold, etc. Abundant liquid food may even relieve it, by diluting the hydrochloric acid. Factors in the production of pain are undoubtedly the acidity of the gastric juice and pressure of gas. Cohnheim insists most positively that unless the ulcer is situated at the cardia, which is rare, the pain does not occur at once on eating, but in  $\frac{1}{2}$ —3 or 4 hours, depending somewhat on the location of the ulcer; and that in each case the interval between eating and pain is the same, peculiar to itself. He declares that even hematemesis itself is not so characteristic as this pain recurring at a definite time after meals. The pain is often relieved by vomiting, so positively and satisfactorily that the patient learns to produce emesis by tickling the fauces. The occurrence of the pain, Cohnheim notices, is periodical; for example, one week in each month, or spring and fall. Profuse menses relieves the pain and scanty menses increases it.

Associated with the pain is often tenderness to pressure in the epigastrium slightly to the left of the median line, though it may be to the right, and tenderness to the left of the lower dorsal (7th-12th) vertebræ. These are not invariable, says Ewald, and the epigastric tenderness should not be confused with the tender point over the solar plexus lower down and still to the left.

Vomiting occurs in over 90 per cent. of the cases. The stomach, or perhaps only the ulcer, is irritated by the acid contents, or pylorospasm may occur. The vomiting is naturally at the height of the pain, and the vomitus is highly acid and shows signs of rapid digestion of albuminous food, but diminished digestion of starch. Marked remission of pain follows immediately. In chronic ulcer we often find vomiting of great quantities of chyme, pointing to dilatation of the stomach. The ulcer may have healed, causing organic stenosis of the pylorus, or it may be open, causing a spasmodic contraction of the pylorus. Even small erosions or fissures of the pylorus are sufficient to cause such stasis in the gastric contents.

Often hematemesis is the first clearly diagnostic symptom. It occurs in 50-80 per cent. Its extent varies from the "occult," requiring the guaiac test to prove, to a gush that may cause immediate death. The latter is rare, and the bleeding is usually subject to control. Of course, the calibre of the eroded vessel determines the rapidity of the hemorrhage. The blood accumulating in the stomach may not be sufficient to produce emesis. It will then appear in the stools as melena, black, tarry, offensive stools. Often when gastric ulcer is suspected a chemical examination of the stools will disclose occult hemorrhage.

The hyperacidity has been referred to. Its frequency is far less than formerly believed. Ewald found it in 34.1 per cent., normal acidity in 56.8 per cent., and subacidity in 9 per cent. The diagnosis is favored by its presence, but not excluded by its absence. In spite of this Ewald regards an ulcer as so liable to cause excessive acidity, that many cases of gastrosuccorhea, previously considered a neurosis, prove to be really latent gastric ulcers. Soupault operated 28 cases of gastrosuccorhea and found ulcer of the pylorus in each. Further, in precisely the same way that hyperchlorhydria suggests gastric ulcer does diminished hydrochloric acid and diminished peptic digestion in a case of ulcer indicate a degeneration into carcinoma.

Other symptoms are merely suggestive. The patient is often well nourished. Cachexia is lacking, but anemia from a preceding chlorosis or a large hemorrhage is common. The appetite is good but discriminating; the care resulting from sad experience with unsuitable food. The tongue is usually

clean and red. Constipation results from the limited diet. Palpation of the thickened tissue around the ulcer is too difficult and susceptible of error to be given much consideration. Fever is not a symptom of gastric ulcer, but may arise from a complication like peritonitis.

The differential diagnosis can be touched but cursorily. Owing to the ease with which any violence may cause a serious hemorrhage or perforation, the use of even the soft rubber tube for extracting a test meal is dangerous. It is rarely to be used except in a hospital or where otherwise the immediate help of a surgeon in emergency is available. Carefully performed, however, it can throw much light on the diagnosis between cancer and chronic ulcer. It might show chronic stasis, which is usually caused by one or the other, located at the pylorus. Bleeding in the stomach in a chronic condition means either cancer, ulcer, or a stenosing gastritis, which latter is usually due to one of the others. Increased hydrochloric acid is usual in ulcer, but, as before mentioned, not a rule.

So serious may a failure to diagnose gastric ulcer be, that it is a good rule to give the patient the benefit of the doubt. A suspicious case should be subjected to the course of treatment for gastric ulcer with all of its rigor. A cure would indicate that the diagnosis had been confirmed.

We can do little more than repeat the accidents of gastric ulcer. The symptoms of ordinary hemorrhage have been discussed. The extraordinary hemorrhage, such as is immediately dangerous, causes a similar appearance to the severe hemorrhage in typhoid, with its picture of collapse. Perigastritis is obscure in its symptomatology and can rarely be diagnosed. During an operation or post mortem its exudate and adhesion with the consequent distortion of the stomach are observed. Perforation deserves a paper to itself. Its symptoms are manifold, depending on the organ or structure into which the perforation opens. Usually, however, the perforation is into the general peritoneal cavity, and the picture produced is similar to that caused by the perforation of a typhoid ulcer. The previous history of gastric pain, and the fact that during the attack the pain originates in the gastric region, suggest the location of the perforation. A duodenal ulcer will cause ileocecal pain, or at least tenderness. Musser found 536 cases of

perforation out of 1871, 28.1 per cent. The mortality was 34.3 per cent.

For the discussion of questions of treatment, the ulcers are divided into acute and chronic. The former are particularly found in the younger women, associated with chlorosis, and as remarked, under favorable circumstances may be entirely cured with a negligible scar. If not cured in four months we have a chronic ulcer. Most such cases are those of traumatic origin, and where the patient's situation in life is not favorable for thorough treatment. Acute uncomplicated ulcers are universally regarded as suitable for medical treatment. Musser's valuable statistics give a mortality to cases receiving medical care of 12.4 per cent., and to cases in which surgical measures are invoked of 20 per cent. Hemorrhage is rarely a cause of immediate death. It usually yields to medical measures. But if it is repeated, and so endangers life by anemia, operation is advisable. Perforation requires immediate operation, and the mortality is in direct ratio to the delay in beginning the operation. No case of ulcer should be medically treated unless in close touch with a man experienced in gastric surgery. A man who only does gynecology will not do. Operation is also required in chronic ulcers that will not heal or that produce large cicatrices and cause intractable stasis, hyperchlorhydria, repeated pylorospasm, hourglass stomach, dilatation, etc. The nature and technique of surgical measures we will also pass, and turn to the medical treatment of acute uncomplicated cases.

The so-called rational treatment is a corollary of all that has been said regarding the nature of the disease. Rest is the key-note. Rest of the stomach first, and of the mind and nervous system second, but just as important. Rest in bed, with perfect comfort, hopefulness and cheerful calm inspired by the physician's assurances, freedom from annoyance, no necessity to entertain visitors; these should be insisted upon. The influence of the nervous system as a causative factor has been mentioned, and upon it should be brought to bear every favorable suggestion, as Dr. Nott well pointed out. The rest of the stomach demands the cessation of feeding by the mouth for from 4-7 days. Usually rectal feeding 2-3 times daily, with all the well known precautions, is advocated. But since

even a nutrient enema causes activity of the gastric mucous membrane and the formation of the gastric juice with all its acidity; and considering the relatively small amount of real nutrition that is absorbed, we would be inclined to go still further. We would give small saline drinks by rectum frequently, but omit the irritating and almost valueless nutrients until they can be safely and carefully given by the stomach. Surely if a fever patient can go for 2-3 weeks without food and without missing it in typhoid, in gastric ulcer a fairly strong patient can go 3-6 days on salines. The cases are, of course, to be given more or less starvation as they can stand without injury. If not sufficiently intelligent to starve without anxiety and fretting, some light nutrient enemata will be necessary. Some Germans go still further and withhold the enemata. They give the necessary water by hypodermoclysis, noting that even a saline enema causes some gastric activity.

Then will come a period when thin gruel, preferably dextrinized, albumin water, milk and lime water taken slowly, beef juice, etc., may be given. After about six days gruels, junket, koumiss, broths; then light eggs, zwiebach, a little scraped beef, etc. As the symptoms abate the diet is tentatively increased, being always ready to drop back to fluids or even salines on the first sign of excess. This dietary course should last for about six to eight weeks. Then should follow a similar period of six weeks during which treatment for the hyperchlorhydria and anemia is given, the diet still guarded to prevent excess, and the patient warned against undue fatigue or nerve strain. For the two or three months that still follow the patient should be under observation to prevent unnoticed sequellæ from developing. During this time particularly Cohnheim is fond of prescribing sweet oil or almond milk. He claims that thereby the effect of the scars in producing stenosis is minimized.

Pain is abated and the patient's comfort increased by antiplogistine to the epigastrium, or a hot water bag (1-3 full) or an electrotherm pad. Instead of the hot poultice a cold fomentation seems to perform the same service of quieting gastric activity, and is more convenient.

Remedies are of use. The Old School coats the stomach with bismuth, gives carlsbad salt or local sedatives or antacids,

iron, silver, nitrate, etc. In our treatment we should direct our efforts at the dyscrasia which is the antecedent condition to all ulcers, and give the remedy which will be indicated by the totality of the symptoms. There will then be suggested to us arsenicum, capsicum, phosphorus, robinia, magnesia carbonica, pulsatilla, with their acidity:—kali bichromicum with its punched-out ulcers, sour vomiting and pains that can be indicated by the point of a finger; hydrastis with its sensation of goneness at the stomach, with a large, flabby white tongue, or perhaps a yellow coat; arnica, carbo veg., crotalus, ferrum, hamamelis, ipec., phosphorus and sabina which have clearly distinguishable symptoms for hematemesis; ammonium carbonicum for the scorbutic condition that may be found; belladonna, antimonium crudum, mercurius, etc., etc.

Hematemesis, besides the indicated remedy, requires quiet, calm, ice chewed, and ice coil to epigastrium. Ewald washes out the stomach with ice water, using a large soft blunt tube. A homeopath had most excellent results by giving vinegar (gtt. 20 in a little water) given at frequent intervals. The vinegar was used for convenience instead of the acetic acid.

It should be remembered that the patient is not well simply because pain, bleeding and vomiting are quiescent. The case should be undertaken with the broad view that remote effects are to be guarded against as well as immediate death prevented. Just as a case of syphilis should involve a three year course of treatment, so should a diagnosis of gastric ulcer imply years of supervision. After the acute symptoms are gone the case should be examined repeatedly to discover signs of stasis or dilatation, indicating pylorospasm, stenosis, dilatation, adhesion, or other tokens of irritability of the organ caused either by the scar, a sub-acute or chronic phase of the ulcer, another ulcer, or malignant degeneration. Such discoveries should be brought to the attention of the surgeon, for their cure lies often in his field, with the dietetic, hygienic and medical assistance of the physician. Operations for their cure are, however, most grave and require the utmost skill. Musser points out that while individual operators of great experience in these cases can claim mortalities of  $3\frac{1}{2}$  per cent., (Moynihan), 3 per cent. (Mayo), the grouped mortalities of all surgeons in 1193 stomach operations gave

Gastro-enterostomy....	964	cases,	23.6	per cent.
Excision.....	51	"	29.4	per cent.
Pyloroplasty.....	69	"	24.7	per cent.
Cauterization.....	55	"	40	per cent.
Gastrolysis.....	37	"	29.8	per cent.
Suture.....	38	"	31.6	per cent.
Pylorectomy.....	24	"	8.4	per cent.

Musser says:—"The surgeon who by design operates one or two only should know the greater mortality. If any blackness can be given to statistics to deter the surgeon who is rushing in to cure dyspepsia, etc., it is well."



### SOME BRITISH CLINICS.

BY RALPH WORRALL, M.D.

(*Continued from page 250.*)

At Guy's Hospital I saw Peter Horrocks do an ovariectomy for suppurating cyst due to axial rotation of the pedicle. He is one of the few London surgeons using catgut ligatures. The abdomen is flushed out with saline solution, and the parietal wound closed by peritoneal suture of catgut and through-and-through silkworm gut sutures for the remaining structures passed in such a way as to bring unlike structures together.

At the Great Northern Hospital, I saw Lockyer operate for supposed suppurating ovarian cyst. It proved to be a pad left in at an operation in another hospital nine months previously. The pad was in an adventitious abscess sac, which was drained with gauze and powdered with iodoform. The patient recovered.

At the London Hospital Lewers did total extirpation of the uterus for cancer of the cervix, Wertheim's method. The case was a bad one from advanced disease. Silk ligatures, sharp needle used for transfixation, wound closed by through-and-through silk-worm gut sutures with separate suture of the same for the anterior aponeurosis.

Charing Cross Hospital.—T. W. Eden did total extirpation of the uterus for cancer of the cervix in a woman, age fifty-five. Twelve months' history. Sharp spoon had been used a



few days previously. Apparently there was no parametrium infiltration. Silk ligatures passed by transfixation with a sharp needle on holder. Parietal wound closed in layers with silk for the peritoneum, and interrupted chromic gut for the anterior aponeurosis, including the muscle. No glands seen or removed; no drain. Pulse 80 just after operation. E. opens the bowels in forty-eight hours usually.

Dr. Rivers Pollock kindly took me over Queen's Charlotte's Lying-in Hospital. A very airy, bright, up-to-date hospital, the delivery wards have terazzo floors, and are arranged and furnished as if they were up-to date operating theatres. Delivery is induced when required by the bougie; de Ribe's bag is strongly recommended for placenta prævia. Forceps are used after two hours' second stage, unless considerable progress has been made. The pattern of forceps used by P. is long, light, straight, narrow-bladed without any pelvic curve. Axis traction is sometimes used. The clinical teaching to a mixed class of nurses and male and female medical students went on for one and a-half hours, and was very excellent and thorough.

At the Hospital of St. John and St. Elizabeth, Grove End road, C. Lockyer operated for retroversion with fixation by taking up each round ligament with a single loop of silk carried through the muscle and aponeurosis, which when tied brought each uterine cornu into close apposition with the anterior abdominal parietes. The left appendage was removed, also the appendix, the latter by crushing and silk purse-string suture after touching stump with acid carbolic. No ligature.

Leeds General Infirmary.—Knaggs did a gastro-enterostomy in a man, using silk for ligatures, Pagenstacher for sutures; round-bodied, curved, calyx-eyed needles, no needle-holder. Parietal wound brought together with continuous catgut. He also did an inguinal hernia in a boy. Sac ligatured with catgut and anchored to parietes by the ligature carried through the muscles.

Dobson did complete extirpation of the uterus for cancer of the cervix (Wertheim's). The stomach came down right into pelvis. Vagina divided with cautery, then firmly packed with gauze. Peritoneum closed over the raw surface with iodized catgut passed by a Hagedorn's needle held in fingers. Cowardine's ligature carrier was used for ligaturing vessels.

Parietal wound closed in layers with catgut and Pagenstacher. Only one gland in the specimen removed. Pulse 104 after the operation, fair. Second case was thought to be pyosalpinx, but after the abdomen had been opened the uterus and appendages were found to be normal. The appendix was long, but appeared normal. It was removed by crushing and catgut ligature with a covering in purse-string and two transverse sutures of Pagenstacher.

Littlewood's first case had been operated upon a year before for perforating gastric ulcer, and had remained well until two weeks before, when vomiting set in. A gastro-enterostomy was now done, differing from that done by Robson in that the new openings were made in the viscera before the suturing in order to avoid any infection of the chromic iodized but seromuscular suture by the bowel contents, which was most carefully sponged away before the suturing. The needle used for viscera was a small Hagedorn, held in the fingers on the flat. The anastomosis was not sutured to the opening in the mesocolon, as Littlewood thinks this is unnecessary. The parietal wound was closed in layers with plain and chromic gut iodized.

Second Case.—Chronic intestinal obstruction with acute symptoms superadded. The latter had been overcome by enemata since admission to hospital. A central incision was made below umbilicus and extended up to ensiform cartilage, when it was found that the splenic flexure of the colon was kinked by adhesion to a distended and inflamed gall-bladder (suppurative cholecystitis). Cholecystectomy was done and the raw surface on the colon carefully sutured. The uterus was retroverted and was suspended by the round ligaments.

The third case was a pelvic abscess which had spontaneously partially evacuated itself through the vagina three weeks previously. A mass now filled pelvis and extended nearly to the ostium vagina. The patient was put into Trendelenberg's position and incision made from above umbilicus to the pubes. The appendix was adherent to a pyosalpinx on the right. Pus was escaping from the ostium of the tube. The latter was removed by clamping at the uterine end and ligaturing without transfixion. A mushroom pedicle was formed. The appendix was removed in the usual way. A rubber drainage tube with thick gauze wick was inserted and brought out at the lower angle of the abdominal wound. The anes-

thetic was chloroform by Vernon Harcourt apparatus. I understand that Littlewood claims to have originated the modern operation of gastro-enterostomy.

Moynihan, at his private hospital, did posterior gastro-enterostomy for duodenal ulcer, and anterior gastro-enterostomy for irremovable cancer of the pylorus with enlarged glands in the mesentery and meso-colon. Pagenstacher's thread for suturing, needles round-bodied with Moynihan's 5-8-curve; no needle-holder. The masks for the face are suspended by metal spectacle frames, so as to keep them off the face.

The anesthetist, Dr. Young, uses ether in a Clovers' apparatus with a bag of double twill. If the operation lasts some time chloroform is substituted. The pupil is watched, but the conjunctiva never touched. Moynihan is absolutely consistent in his aseptic technique. It is apparently without a flaw. He aims at perfection of detail rather than mere rapidity of operating.

At the Infirmary a posterior gastro-enterostomy for duodenal ulcer was done. The parietal wound was closed with continuous iodine chromic catgut suture for peritoneum; the same thread was used for the anterior aponeurosis after through-and-through silkworm gut sutures had been passed. These latter were tied very loosely over a scissors to avoid cutting. Michel's clamps were used for the skin. The dressings are kept on by formalin-gelatine applied around the edges, but no bandage or plaster is applied to the abdomen.

At private hospital next day, M., assisted by Dr. Collins, removed two mammæ for cancer—the first, in a stout woman, age fifty-four, with a mass of glands in the axilla, size of an orange. The axilla was attacked first, and the dissection made from without, in and down. All the same tributary veins of the axillary were ligatured. No more than twelve clips on at once, and only twenty-five ligaures applied. A rubber drainage tube was inserted into the axilla, the skin united by silkworm gut, and the dressings fastened on as in the abdominal sections with the formalin-gelatine. Duration of operation, fifty-two minutes.

Second case.—Patient, age thirty-two, very rapid growth, invading three different areas of skin, large mass of glands in

axilla. Huge incision required half way to umbilicus, raw surface could not be covered until flaps were brought from the flank. Duration, seventy minutes.

(*To be continued.*)



## FINAL REPORT ON EXPERIMENTS WITH SCOPO- LAMIN-MORPHIN.

BY EDGAR R. BRYANT, A.M., M.D.

About two years ago, after considerable deliberation, and contrary to the opinions of other investigators and writers, I made the statement that scopolamin is a harmless drug when administered in ordinary doses, and that no death alleged to be due to scopolamin-morphin could have been produced by scopolamin. Since then I have continued to investigate, and the following is a synopsis of my experiments with scopolamin:

I found that when three equal doses were given at intervals of an hour, the action of the drug was more pronounced after the second than after the third dose. This enabled me to increase the dosage at subsequent experiments with safety, for if two thirds of a dose did not cause dangerous symptoms, the remaining third could be given without hesitation. At my first experiment one patient received one dose of scopolamin gr. 1-30, and it produced a quieting result, the patient being nervous from alcoholic poisoning.

Six patients, during several experiments, received scopolamin gr. 1-10, in three divided doses at hourly intervals. Characteristic symptoms of the drug were exhibited in all except one person, who was moribund from epithelioma of the tongue.

Scopolamin gr. 1-4 in three divided doses was given to six different patients at hourly intervals, producing interesting but not alarming symptoms. A quarter of a grain of the drug is an excellent dose for the study of its physiological effects; larger doses produce a stronger narcotic effect and fewer characteristic symptoms.

I should advise anyone desirous of experimenting with scopolamin to use no stronger doses than gr. 1-10, or gr. 1-4 in the beginning. Almost any patient will tolerate gr. 1-4 of the

drug; stronger doses can no doubt be given with impunity, as I have proved by administering two grains without producing serious symptoms.

My most interesting patient is Hong Louie, a tall, powerful, athletic Chinese, thirty years of age, who is afflicted with a small, round-celled sarcoma of the lower jaw, neck and shoulders. His case is inoperable and hopeless; any accident that might have befallen him would have been looked upon as an act of mercy.

He first, on June 16, 1906, received scopolamin gr. 1-10 in three divided doses at intervals of one hour. Six weeks later, July 25, 1906, he received in the same manner gr. 1-4. Six weeks later, September 15, 1906, br. 1-3 was injected, and one week later, September 22, 1906, gr. 1-2 given. On November 10, 1906, hyoscine hydrobromate gr. 3-4, divided into three doses, was given at intervals of one hour, and symptoms similar to those exhibited after scopolamin were produced.

Physiological doses of scopolamin and hyoscine produce symptoms apparently identical.

December 1, 1906, Hong Louie received scopolamin gr. 1, in three divided doses at hourly intervals. Symptoms similar to those produced by smaller doses were exhibited; there was no increase in the frequency of pulse or respiration.

January 30, 1907, he was given scopolamin gr. 1 1-2, in three divided doses at intervals of one hour. The symptoms scarcely varied from those produced by scopolamin gr. 1-2 or gr. 1, or hyoscine hydrobromate gr. 3-4.

I waited for more than two months before proceeding further with Hong Louie, as I desired to allay all suspicion that he was becoming accustomed to the drug, and would thereby tolerate larger doses. Eight experiments during a period of about eight months certainly could not be said to be conducive to toleration of a drug.

In one of my first experiments a patient with epithelioma of the tongue, practically moribund, received scopolamin gr. 1-10, without any reaction. At first Hong Louie was very much opposed to receiving hypodermic injections, and acted so maliciously toward the nurse who gave the injections for all my experiments and who wrote the clinical charts, that she feared that he would carry out his threats to kill her. However, a few dollars and the assurance that the injections would cure the

swelling of his face, neck, shoulders and axillæ, caused him to submit to the experiments with readiness. Whether it be from the action of the scopolamin or the uncertain power of suggestive therapeutics, his swellings are all disappearing, and indications point to a great modification of the sarcomatous masses.

If the pathological department of the Hahnemann Medical College were not using portions of almost all the tissues of his neck to demonstrate round-celled sarcoma to the classes, I should be inclined to consider an error in the diagnosis.

In the general operating room of the City and County Hospital April 6, 1907, with the assistance of Prof. E. Schmoll, of the Cooper Medical College; Prof. A. W. Morton, of the College of P. and S.; Prof. James T. Watkins, of the Polyclinic; Prof. W. Winterberg, of Cooper; Profs. H. R. Arndt, Boericke, Rice; my assistant, Dr. R. F. Tomlinson; my surgical interne, Dr. L. Carl Smith, and many physicians and students, three patients received respectively gr. 1-10, gr. 1-4 and grs. 2 of scopolamin. From these experiments and from the records of the preceding injections of scopolamin, I have been able to draw the following deductions: Scopolamin in doses of gr. 1-4, gr. 1-2, and in one case grs. 2, produces but slight change in the pulse rate or in the respirations; and in doses larger than usually prescribed does not produce any startling or dangerous manifestations. Symptoms similar to those caused by large doses of belladonna or hyoscyamus were observed. Large doses of scopolamin produced symptoms similar in character to those produced by hyoscine.

Scopolamin is innocuous in ordinary cases, and we need no longer consider this drug when investigating the adverse reports concerning scopolamin-morphin.

Often large doses of morphin, which without scopolamin would be considered dangerous, are given with scopolamin, and the physicians who notice the resulting depressing effects see fit to attribute them to the scopolamin.

Scopolamin in large doses neither slows the pulse rate nor reduces the frequency of the respirations; hence it cannot be held responsible for the disturbance of the circulatory and respiratory centers which occurs when small doses of scopolamin are used with large doses of morphin.

I usually prescribe three doses of scopolamin gr. 1-100 and morphin gr. 1-6 to be given hypodermically, two and a half, one

and a half, and one half hour before the anesthetic. Sometimes but two of these doses, one and a half and one half hour before the anesthetic are given. Often one dose scopolamin gr. 1-50 and morphin gr. 1-4 is given one hour before the general anesthetic.

If there is a question of the patient's fitness for receiving such a large dose of morphin, I order two doses consisting of scopolamin gr. 1-50 and morphin gr. 1-6. Three such doses have been given frequently without depressing effects.

I once gave a patient scopolamin gr. 1-20 and morphin gr. 2-3 previous to an anesthetic, and had excellent results.

The patient's ears are plugged with cotton to exclude the sound, and the eyes are protected from the light by screens or the application of green glasses.

All noise or talking in the vicinity of the patient should be avoided.

If possible, when three injections are ordered, the third should be given in the anesthesia room. The ideal is consummated if the patient is sleeping when the anesthesia cone is applied. With but a few breaths the patient is anesthetized and ready for operative procedures. The amount of chloroform or ether necessary to prolong the anesthesia is relatively small and the patient sleeps quietly for hours after the operation and does not awaken until the acute pain of the incisions has ceased.

I have told nervous women the night before the operation that no operation would be performed for some time, or that they could go home on the morrow. This insured a sound, refreshing sleep and they would remain ignorant of either anesthesia or operation until the following evening, when they would be delighted to learn that the horrid anesthesia and terrible operation had occurred hours before.

After general anesthesia, unless contraindicated, stomach lavage should be instituted before the patient leaves the operating table.

The average scopolamin-morphin patients are not nauseated and are about as comfortable on the day following the operation as were those on the third day who did not receive these drugs. The chief virtues of these drugs are: First, the patients are spared the terrors and the disagreeable sensations of the anesthetic; second, the misery of the post-operative period will mercifully be greatly diminished.

I never give an ordinary anesthetic unless the patient is a child or unless time does not permit, or in the absence of a trained attendant. Otherwise all cases receive scopolamin-morphin before chloroform or ether is given. If desirable, spinal anesthesia is induced alone or with scopolamin-morphin.

The following concerning scopolamin-morphin will explain my reasons for the use of these drugs:

1. There has been no death record from injection of scopolamin-morphin that could be attributed to scopolamin.
2. No dangerous symptoms will result if scopolamin gr. 1-10 is given, divided into three doses and injected at intervals of an hour.
3. A larger quantity than gr. 1-20 is unnecessary for therapeutic purposes. Scopolamin alone, without morphin, is of no pronounced value either as a narcotic or as an adjunct to chloroform or other anesthesia.
4. Patients are spared the fear and annoyance of the anesthetic if scopolamin-morphin is given.
5. The quantity of chloroform or ether is lessened from one half to three fourths of the amount generally employed. A state of excitement is exceedingly rare, and but a small amount of the anesthetic is necessary for primary analgesia.
6. Anesthesia produced by the aid of these drugs is less dangerous than without them.
7. Nausea and vomiting are rare; in fact, so far as my experience goes, they never occur during the period of consciousness.
8. There is no flow of saliva or other secretions, and the danger of aspiration and consequent post-operative pneumonia is avoided.
9. An engorgement of the superficial vessels of the body has been noticed, thus lessening shock after scopolamin-morphin.
10. The period following the operation is rendered more comfortable, and is more easily endured.
11. Headache is rarely present, and nervous excitement does not follow the operation.
12. Scopolamin is the best drug to combine with morphin to increase its narcotic and antidote its depressing effects.
13. Scopolamin gr. 1-50 and morphin gr. 1-4 given one half hour before a painful dressing will permit the performance of the same without causing pain.



14. In delirium tremens and other manifestations of alcoholism scopolamin in doses of gr. 1-100 to gr. 1-50, and morphin gr. 1-6 to 1-4 are exceedingly useful. They allay nervousness and restlessness and produce natural, but profound, sleep.

15. Their use in labor has been exceedingly gratifying in my hands. If for any reason it becomes desirable that a parturient patient should have a rest during the first stage of labor, scopolamin gr. 1-100 to gr. 1-50 and morphin 1-6 to gr. 1-4 will cause her to sleep from two to five hours, and with a diminution of the force, but not a cessation, of the pains. Upon awakening, the aspect of the whole affair to the patient is changed. She is strong and refreshed and eager to take up the work which appeared impossible and hopeless to her before she went to sleep. Dilatation of the cervix having gone on in the meantime, she is much encouraged by the progress made while she was resting. If scopolamin gr. 1-100 to 1-50 and morphin gr. 1-6 to 1-4 is given at the end of the first stage of labor, the patient will be carried through the second stage strongly and rapidly and without the necessity of administering chloroform. I would advise the use of the smaller dose, i. e., scopolamin gr. 1-100 and morphin gr. 1-6, repeated in from four to six hours if necessary in obstetrical practice.

Eastern writers speak of dead babies following the use of scopolamin-morphin in obstetrics, but neither myself nor my colleagues agree with them.

A ward patient in the Hahnemann Hospital, four months pregnant, in premature labor, complained of intermittent pains at 9 p. m. I ordered an injection of scopolamin gr. 1-50 and morphin gr. 1-4, and the patient passed the fetus and the placenta three hours later without being awakened and without awakening the other women in the ward. The following morning neither the patient nor her fellow ward mates could believe that such a momentous affair occurred during their sleep, and it was necessary to show them the fetus before they would believe the tale.

I have a record of four hundred cases operated upon under scopolamin-morphin chloroform anesthesia. They comprise operations on the head, brain, cranial nerves, mouth, throat, palate, tongue, nose, tonsil, adenoids, ear, neck, chest, abdomen, liver, gall, bladder, pancreas, kidney, stomach, intestines, appendix-vermiformis, uterus and its appendages, vagina, rectum,

male generative organs, upper and lower extremities, and the osseous system.

If the condition of the patient is such as to preclude the advisability of the administration of a general anesthetic and the portion of the body upon which the operation is to be performed is amenable to its use, spinal anesthesia produced by hydrochlorate of tropo-cocaine gr. 1-2 to *prs.* 1 1-2 gives perfect satisfaction and can be given without any fear of immediate or post-anesthetic danger. I consider this analgesia to be the safest and best of all general anesthetics. Spinal anesthesia with tropo-cocaine has assumed a permanent position among anesthetic agents.

I have used spinal anesthesia in over six hundred cases in the last four years, and in no case were there bad after effects as the result of the anesthetic.

I heard of bad results before I began to investigate, and have heard of them since, but neither Dr. A. W. Morton, who has used this method in over two thousand cases, nor myself have seen any bad post-anesthetic symptoms resulting from spinal anesthesia.

The bad results reported from the use of cocaine by many surgeons have been caused, no doubt, by imperfect asepsis and the use of a form of cocaine which cannot be properly sterilized.

Tropo-cocaine hydrochlorate is obtained from certain varieties of cocoa (*erythroxylon cocoa*), principally grown in Java. This preparation must not be confounded with a synthetic preparation made by some manufacturers and called benzoylpseudotropena hydrochlorate.

Tropo-cocaine occurs in white, irregular crystals, but the pseudoform is sold as a white crystalline powder.

The only firm that manufactures tropo-cocaine which gives me satisfaction is the Malinckrodt Chemical Company.

Mr. J. H. Hubacheck, formerly the druggist at the City and County Hospital, San Francisco, and whose address is 1022 York Street, San Francisco, has prepared the cocaine for my spinal anesthetics, and I consider that my success, to a great degree, is due to the care he has taken in its preparation.

Previous to the insertion of the needle, the patient's back is thoroughly cleansed, and when possible, the patient is seated at the side of the table with his body bowed forward, so that the hands hang between and below the knees. If in a somnolent

condition from previous injections of scopolamin-morphin, or if not expedient to place the patient upright, he can lie upon his side with the body curved forward. Either of these positions causes a separation of the spines of the vertebræ. A sterile towel stretched across the back between the crests of the ilium crosses the fourth lumbar spine. This spot is marked by a prick with the point of the needle. The needle used is number 19 steel wire, and is about three inches long, and can be inserted in any interspace between the second lumbar spine and the sacrum. The point selected is usually the space between the third and fourth or the fourth and fifth lumbar spines.

The chosen space is anesthetized by freezing with an Ethyl chloride spray, and the needle is inserted without any preliminary incision. An incision is recommended by some investigators, but this is absolutely unnecessary, and produces a wound in the back which it may be difficult to dress. If the spinal fluid escapes from the needle, it signifies that the needle has been well placed, and no pain is felt by the patient.

When several thrusts of the needle are necessary to tap the fluid, the patient complains of a painful sensation, but the distress caused by a clumsy operator is never equal to that caused by inhalations of gas, ether or chloroform.

The mouth of the needle is plunged by a finger until the cork of the sterile bottle containing the crystals of tropo-cocaine is drawn. The spinal fluid is now allowed to escape into this bottle until the bottle is more than half filled with the fluid.

The bottle with its opening occluded with the thumb is then agitated between the thumb and the index finger so as to thoroughly dissolve the cocaine crystals.

The fluid is then poured into the barrel of a Luer's glass syringe, the piston is inserted, and the nozzle of the syringe firmly fitted into the mouth of the needle. The plunger is slightly withdrawn to allow more spinal fluid to escape into the syringe, and then the contents of the syringe are suddenly forced into the spinal canal.

The proper placing of the needle, which is demonstrated by the subsequent escape of the cerebro-spinal fluid, is the only portion of the technique that requires skill.

A solution of adrenalin can be added, or other alkaloids of coca than tropo-cocaine used, but I have not arrived at a definite conclusion as to the advantages of the former active principle.

The sensation of pain in a foot, or of the feet going to sleep, is an indication of the effectiveness of the anesthetic. The needle is withdrawn and the point of insertion covered with sterile collodion and cotton. The patient is placed in the desired position and will be sufficiently anesthetized for operative procedures by the time that the field of operation can be cleansed and arranged for surgical work.

Symptoms of shock as the result of the injection of cocaine, or of fright, or of the operative procedures, have rarely been observed of late. When they do appear they come quickly, but respond almost immediately to proper stimulation. It is wise to always have three hypodermics filled and ready for instant use before injecting the cocaine; one should contain atropine, one strychnine, and one adrenalin chloride.

At the first symptom of shock, be it sighing, restlessness, anxiety, moisture of hands and face, or of a more pronounced type, the contents of one or all of these syringes should be injected, and response will be almost simultaneous. Saline infusions and the inhalation of amyl nitrate or oxygen may prove useful.

Although the shock may be profound, the recovery is rapid and the patient leaves the table absolutely free of all dangerous or even disagreeable symptoms.

Food, drink and stimulants may be given the patient before, during or after the operation, and frequently whisky, to produce a mild form of intoxication, is given to keep up the patient's courage, and make the time pass quickly. Some patients hugely enjoy smoking a good cigar during the process of a major operation.

Spinal anesthesia is particularly well adapted to inguinal or femoral herniotomy, where the power to cough and, incidentally, to demonstrate the exact position of the sac facilitates the operative procedure.

It is also to be recommended for operations upon the rectum, bladder, urethra and the generative organs of the male, particularly enlarged prostate.

The rectum, however, after this anesthesia, remains relaxed, and the slitting operation of Pratt without ligature or suture is not to be recommended.

This anesthesia is particularly valuable in emergency cases where the pelvis or the lower extremities are involved. It can

be given immediately, irrespective of nausea, of shock, or of food in the stomach. The patient's lower extremities are anesthetized, but he is able to explain the nature and cause of the accident and can answer.

In intestinal obstruction, incarcerated hernia or appendicitis, when the patient's condition would render any other anesthetic dangerous and undesirable, this anesthesia can be given without danger.

The action of the anesthetic properties of tropo-cocaine can be made to ascend higher than usual by placing the patient in a Trendelenburg position after the injection of one grain and in repeating the same dosage of tropo-cocaine in twenty minutes. After a lapse of time the original dose can be repeated with safety.

By obstructing the natural flow of blood to the head with a bandage about the neck before the lumbar puncture and the removal of the same, several minutes after the injection of the cocaine, the anesthesia will be drawn towards the head, and operations upon any portion of the abdomen, and often the chest, and even clavicular region, can be performed without causing pain or distress to the patient.

In nervous patients I prefer to produce sleep by means of scopolamin-morphin, and then inject cocaine into the spinal canal during the somnolent period. This permits the performance of a surgical operation within the varying anatomical limits of spinal analgesia, with the patient unconscious, and without the use of chloroform or ether. I have a record of about one hundred cases which have been operated upon under this combined form of anesthesia, and can report that the method is safe, practical and advisable.

## Current Comment.

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Herbert French, M.D.:

To what extent **does the pyelonephritis interfere with the course of the pregnancy?** Is it likely that the child will be born dead? Seeing that pregnancy is a fundamental factor in the pyelonephritis, ought obstetrical measures for the termination of the pregnancy to be advised? Is the time of labor one of special danger? Is the patient particularly liable to uremic symptoms? Is there any relationship between pyelonephritis and puerperal eclampsia? Is the condition likely to be completely cured after labor, or is a residuum of kidney inflammation to be expected? Is the patient very liable to have a recurrence of the pyelonephritis in a succeeding pregnancy? These are questions a physician may be called upon to answer.

It is only by a collective inquiry, in which mild as well as severe cases are included, that conclusive answers can be given to these problems. Under present conditions it is dangerous to base opinions upon published cases only, because those which are thought worthy of being published are often not the ordinary cases, but rather those which present points of special interest. On the other hand, an individual can scarcely hope to meet with a very large number of cases himself, so that until records of consecutive and unselected cases can by some means be gathered together it is only possible to base one's opinion either upon recorded, and therefore selected, cases, or else upon the few cases that one has oneself watched.

It would seem that, diagnosed early and treated by confinement to bed with remedies, the condition usually tends towards resolution, notwithstanding continuance of the pregnancy. Moreover, in the majority of what may be called cases of ordinary severity the pregnancy is not particularly apt to come to an end prematurely. The children do not show any special liability to die in utero, and the mother is not subject to uremic convulsions at the time of labor. No doubt there are individual cases in which the illness is so severe that it might be wise to advise relief to the ureteral obstruction by the use of obstetric measures for emptying the uterus. The kind of case in which

this might be the best course to follow would probably be one in which the renal mischief had set in with severity during the earlier months of the pregnancy and had then persisted for a month or more without abatement in the symptoms, notwithstanding all the medicinal treatment available. Such cases as these are distinctly the exception, however. The majority of the patients require the adoption of no obstetrical measures for the time being. Treatment upon purely medical lines—by absolute rest in bed light nourishing diet, laxatives, and such remedies as are known to benefit pyuria, begun early and carefully followed, will usually relieve the patient of her untoward symptoms comparatively soon—that is to say, within three weeks or a month. The pyuria will often persist for a month or six weeks after the patient herself feels quite well, and, unless considerable care is observed, a relapse is apt to occur before the pregnancy reaches term. Repeated microscopical examination of the urine is therefore essential, and medical supervision is required as long as any pus is present. Eclampsia is not to be expected, and the patients nearly always get perfectly well of their pyuria after the child has been born.

It would not be at all surprising if similar pyelonephritis were to recur in succeeding pregnancies, and cases are on record where this has actually been the case. This is not the invariable rule, however. If the pyuria is completely cured after one pregnancy, and care is subsequently taken to ensure that there is neither constipation nor diarrhea such as might predispose to invasion of the body by the *Bacillus coli communis* from the intestines, it is quite possible for a succeeding pregnancy to pass by without any symptom of pyelonephritis at all.

Stress may well be laid upon the fact that the pyelonephritis of pregnancy may easily be mistaken for something else. The milder cases may be regarded as simple pain in the back, as lumbago, as influenza, and so forth; severe cases may be thought to have pneumonia, pleurisy, or the like; the most severe cases may be diagnosed as appendicitis or as some other intra-abdominal condition. The main symptoms of the disease are backache and pyrexia, with or without headache, vomiting or rigors, and unless the urine is carefully examined for pus corpuscles the real cause of the trouble might readily be overlooked.

Geo. L. Brodhead, M.D.:

In reporting an **estimation of the date of confinement** as based on a study of five hundred cases, I am fully aware of the very large amount of literature concerning this subject, and fully cognizant of the fact that from time immemorial, efforts have been made, by means of various rules and methods of calculation, to fix accurately the date at which confinement would occur. Also that, notwithstanding the fact that many and valuable observations have been made, the truth remains that there is still much to be learned from the careful study of a large number of cases. We still make errors in calculation, and shall probably continue to do so, but if all signs are taken into account, the liability to error will be reduced to a minimum. The facilities for observation and record of these five hundred cases have been exceptionally good, with the result that data obtained from them are to be relied upon as being accurate, or, at least, as nearly correct as careful examination, under most favorable circumstances, could make them.

I will briefly summarize the results:

I. There can be no doubt that menstruation, when accurately known, is our best aid in estimation, as it is available at any period, and in a large proportion of cases we can tell the date of confinement within two weeks, regardless of any further examination.

II. The height of the fundus is important during the first eight months, but is less so, generally speaking, from that time on, as the uterus reaches the same points at eight and nine months and eight and one-half and eight and one-third.

III. The engagement of the vertex in the pelvic brim is of great importance, especially in primiparæ, as in a large proportion of cases the vertex is found to be engaged during the last week of pregnancy, while comparatively few are engaged before that time, either in primiparæ or multiparæ.

In the valuation of the last two signs, large children, twins, deformity of the pelvis, and excess of amniotic fluid, must of course be taken into consideration.

IV. In the condition of the cervix, we have another valuable sign, chiefly, however, in primiparæ, for, while the internal os in nearly one half of multiparæ admits one finger before the middle of the ninth month, in primiparæ only one third admit



one finger up to the beginning of the last week. During the last week, the greater number of both admit one finger.

V. Quickening is very indefinite, as the sensations of women in respect to this cannot usually be depended upon with sufficient accuracy, for a scientific estimation.

VI. If the navel protrudes, the chances are about even that the woman is at full term, but it must be remembered that a large number of women are at full term, with a flat or depressed navel.

VII. The sinking of the uterus during the last two weeks is a sign of considerable importance in intelligent women, but of course can be of service, only late in pregnancy. The sign of very abundant secretion is of value, especially when it is associated with softening and relaxation of the entire vagina and vulvar orifice.

In conclusion, while we are forced to admit that the correct estimation of the date of confinement is not an easy problem, at the same time we believe that by careful observation of our patient with due reference to the value of the various signs described, we can more closely approximate the date at which confinement will take place.



W. H. Moenkhaus, Ph. D.:

Whether it will be a boy or a girl is a question that either has or sooner or later will become a matter of much concern to most of us. **Whether the sex** of an animal or plant **can be controlled** has at all times been a subject for speculation, and in the last half century one for extensive investigation. The lack of definite facts has encouraged an almost endless amount of speculation. Drelingcourt brought together 262 groundless theories of sex, as he called them. Blumenbach, in relating this fact, aptly remarked that nothing was more certain than that Drelingcourt's own theory constituted the 263d. The decidedly renewed interest in this question during the last few years is leading to a re-examination of the older theories and experiments and is adding a large body of new facts which promise to essentially clarify the whole problem.

The first attempts at a really scientific investigation of the question are of a statistical character. Birth statistics gathered for the whole of Europe, aggregating several millions, show the sex ratio in the human species to be 106 males to every 100

females. This same ratio approximately holds for any of the countries of Europe. The disproportion in the sexes is very much greater in the still-born and the abortive births. Among the former the ratio is about 130 males to 100 females, and in the latter, 160 males to 100 females. An even greater disproportion in favor of one sex or the other is found among some of the lower animals. No plausible explanation for these facts is forthcoming.

The tendency of recent work has definitely been for the most part to emphasize the view that the sex is predetermined in the egg or sperm and that the sex of the embryo is definitely decided at the time of or previous to fertilization. In the human the sex of the so-called identical twins is usually brought forward in support of this view. These are supposed to differ definitely from a second class, the fraternal twins, in their much greater resemblance to each other. The sex of identical twins is always the same, i. e., they are both male or both female. This fact is satisfactorily explained by the assumption that the two individuals are derived from the same egg. This egg having been fertilized by a single sperm divides and in the two-cell stage the cells become separated and each grows into a complete embryo. That this is possible has been abundantly shown experimentally in other animals. If the sex is predetermined in the egg or sperm, any individuals developing from this egg must have the same sex. In the case of fraternal twins that are supposed to be derived from two separate eggs each fertilized by a sperm the characters, including their sex, may be as different as is usual among members of the same family.

A condition analogous to identical twins is found in some other animals; thus in the armadillo the individuals of any given litter are all of the same sex. The explanation here possible is the same, namely, that all came from a single egg. A striking example of this same sort is found among certain parasitic insects. The calcid fly lays a single impregnated egg in the egg of a moth. The egg, instead of developing into a single individual, buds off a great many cells, each of which grows into an adult. The flies belonging to any given brood since they came from a single egg are all of the same sex, pointing strongly to the fact that sex is determined at or before fertilization.

The important discoveries of McClung and Wilson and others in the structure of the egg and the sperm have done more than anything else to emphasize the view that sex is determined at the time of fertilization. These studies are, perhaps, too technical to warrant their discussion in detail at this place. A general statement of the facts can be made. They find in the sex cells of certain animals a definite structure that they have called the sex chromosome, which seems to be definitely associated with the production of sex. We thus have for the first time found a definite structure which, it seems, we can say contains the material which either determines the sex or is in some way associated with its production. In the clearest cases they find that the spermatozoa are of two kinds, one containing the sex chromosome and the other not. These two kinds of spermatozoa are equal in number. When a given egg is impregnated by a sperm having the extra chromosome it has been definitely shown that the resulting individual becomes a female. If the egg is fertilized by the other kind of sperm, it develops into a male. The chance of being fertilized by one or the other kind being equal, we can account for the approximate equality in the sexes usually found in animals. It should be said that the matter is not quite so simple as here stated, but the difficulties encountered will perhaps not be insuperable. These discoveries are inciting the greatest activity in the problem of sex, and we may with no little assurance look for a distinct advance in our knowledge of the nature and control of sex during the coming decade.

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F. A. Forsbeck, M. D. :

We have, in **ventro-fixation**, or **utero-abdominal union**, a surgical procedure, which, though not infallible, gives satisfactory results in the greatest number of cases. When, after mature consideration, no other means promise any relief, or after the more simple surgical procedures have failed, and after the patient has been made to understand the nature of the operation, and of course the possibilities of failure or complications occurring in abdominal sections, the operation should be performed without delay. It is unnecessary to describe in detail the variations of the original method as published by Kelly, of Baltimore. Suffice it to reiterate the distinction between the two terms **ventro-fixation** and **ventro-**

suspension. In ventro-suspension the retention sutures pass through folds of the parietal peritoneum only, while in fixation the sutures pass through the parietal muscles and even the skin. Later deviations in the method of suspension would make the position of the replaced uterus a point of distinction. While in ordinary suspension the uterus is simply in contact with the parietal peritoneum in a vertical position, the improved method places the uterus in an anteverted and slightly anteflexed position and the anchor sutures are taken in the posterior wall of the fundus.

I have noticed in reviewing the later literature on this subject that the former method of fixation of the uterus, (i. e., anchorage without anteflexion and the including of abdominal muscle tissue in the retention sutures) is meeting with disfavor with the possible exception in cases of severe prolapse, and there is justification in this method in cases when pregnancy might be anticipated. On the other hand statistics on pregnancies following suspensions by the improved method are eminently satisfactory. I have twice in my own practice had the extraordinary opportunity to inspect in vivisection the fibrous bands formed as a result of this operation. In one case, Mrs. S., upon whom I performed hysterorrhaphy on July 24, 1904, I found on November 24, 1904, in operating for the removal of a diseased ovary, the fibrous suspensory band, much in the manner as illustrated by Kelly in his "Operative Gynecology." In the second instance I performed an appendectomy on the wife of one of our esteemed confrères, and had the opportunity of reviewing the work done on her several years previously by our colleague Dr. Pratt of Chicago. This patient carried to a successful termination a gestation three years after hysterorrhaphy had been performed and without any detrimental effects as far as the result of the suspensory operation was concerned. These bands had upon inspection much the same appearance as those in the first case related, and this in spite of the stretching enforced by the gravid uterus.

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H. M. Graham, M.D.:

I submit some notes on the treatment of **retroflexion and retroversion of the uterus**. We may replace the uterus by the use of the sound or repositor, manipulation and position. But to keep the uterus in place is a question that is not easily

settled. The object of all the mechanical means which may be employed is first to give relief, and at the same time, through the agency of the artificial support, restore the normal position.

When the uterus is retroflexed and the fundus lies below and between the sacro-uterine ligaments, place the patient in the knee-chest position, draw down the cervix with a tenaculum, and with the finger in the rectum free the body of the uterus. After this is accomplished and the vagina inflated by air the fundus will generally assume an anterior position.

In making use of the faradic current of electricity, it is my practice to introduce the vaginal electrode into the rectum, slowly and gently forcing the electrode up until it lies under the inferior wall of the bent uterus. This straightens, replaces and gives tone to its muscular walls.

Brandt's method of massage is useful; hot douches are always necessary. The tampon treatment gives gratifying results in all degrees, as it supports, medicates and depletes, but its greatest field of usefulness is in the first degree.

It has been said by good authority that fifty per cent. of the cases of retroversion in the first degree can be cured by the proper use of the pessary.

The vaginal pessary retains the uterus in place by raising the posterior vaginal fornix and keeping tense the posterior vaginal wall. Unless flexion is present, any force that controls the position of the cervix has the same degree of influence in an opposite direction on the fundus.

Pessaries ought never to be used when there is present retroflexion, a purulent vaginitis, fixation of the uterus, pus-tubes or pelvic cellulitis.

The patient should be examined from time to time to ascertain whether the pessary is accomplishing the desired work or puncturing the vaginal wall. The pessary is like all useful instruments—good in its use, dangerous in its abuse.

When the pessary fails to cure or cannot be tolerated by the patient, or the case is too severe for palliative measures, we should have recourse to surgery. Laceration of cervix and perineum, whenever found, should be repaired and the pelvic floor raised by carrying the denudation high up into the posterior sulci. Coherent to this, when the uterus is retroflexed it should be thoroughly dilated and Graham's intrauterine stem pessary inserted and retained in situ for at least two weeks.

A deep laceration of the cervix may destroy the action of the utero-sacral and utero-vesical ligaments. Every surgical case is one unto itself, and the operation most applicable to remedy the pathology found in the particular case should be chosen. When the uterus is freely movable, accompanied by relaxation of tissue, the Alexander operation, or one of its modifications, in a properly selected case is ideal, as it does not create complications in gestation or obstruction in labor. However, when the uterus is prolapsed we gain but little advantage unless we shorten the sacro-uterine ligaments in connection with the round.

When the pregnant retroverted uterus gives symptoms of non-toleration, it should be replaced by manipulation with the patient in the knee-chest position if possible. When incarceration is threatened, a laparotomy should be made. After the uterus is put in position any operation that shortens the round ligament may be used.

To empty the uterus under such circumstances is by me deemed unjustifiable, as it is the surgeon's duty to protect not only the life of the mother, but as well the life of the child. It is an easy thing for the surgeon to empty a pregnant uterus, but, applying the words of Shakespeare, it is "the most unkindest cut of all."

In women past the menopause, in unmarried women over thirty-five; in deformed women or women that should not from any other cause become pregnant, the ventral suspension in my hands is a most gratifying operation. In the same I suspend the uterus high enough so that the bladder may be fully distended when filled, suspending the highest point of the anterior wall of the fundus, using the silkworm suture that unites the abdominal wall. It is my practice, after all operations for relief of a displaced uterus, to support from below by means of a vaginal pessary until the ligaments have become strong. I do not approve of a suspension in women during the child-bearing period if any other operation will serve as well.

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A. F. House, M.D.:

In making a diagnosis the first question to decide, when a patient presents herself with a **tumor of the mammary gland**, is whether it is benign or malignant. This is not always an easy matter to decide. If the patient be over forty years of age it is

always suspicious, if there be nodules that are movable in the gland, if the over-lying skin be adherent, and if there be lancinating pains, retracted nipple and enlargement of the lymphatic glands, there should be no doubt whatever as to the character of the growth.

With small tumors it is quite different. These nodules may be mistaken for a fibroadenoma, cyst or interstitial mastitis, especially so in a deep-seated or retromammary tumor in a breast covered with a thick layer of adipose tissue. First we should locate the tumor, determine its size, shape, sharpness of outline, whether it is confined to the breast tissue, its mobility and sensitiveness, and whether there is any shortening of the trabeculæ from the tumor to the skin. This fact can be determined by making both breasts take the widest possible excursion under the skin on the chest wall. The slightest trace of asymmetry in the skin tug, or the faintest conceivable trace of a difference on the two sides in a minor pectoral crease may suffice for a diagnosis. True, it requires some tact and patience and the most accurate control with the opposite breast to estimate its significance as a diagnosis factor in small deep-seated tumors.

We should, therefore, bear in mind that carcinoma is associated with a series of characteristic symptoms, any one of which is sufficient to attract attention, although one should be careful not to undervalue the importance of any one sign.

The prognosis of malignant growths of the breast is always unfavorable if the disease is allowed to pursue its natural course. Winiwarter, Fischer and Esmarch give the average duration of life without an operation as twenty-two months.

The only remedy for carcinoma of the breast is a complete removal of all infected areas. It is also important to attack the disease early, and I believe that an operation is indicated even in cases that are clinically doubtful. Surgeons are aware that the prognosis depends upon the extent of the growth. Why not, then, expose all tumors for the purpose of diagnosis when carcinoma cannot be absolutely excluded? I know of no more reason why the surgeon should hesitate to make an exploratory incision to determine the nature of a tumor of the breast than in the case of an obscure abdominal tumor. An error in this direction is far less serious to the patient than assuming a malignant tumor to be benign. The practice of many physi-

cians in keeping a woman with a tumor of the breast, which cannot be shown to be benign, under observation for weeks or months, in prescribing ointments and counter-irritants, only to be obliged to confess finally that the growth is cancer, is inexcusable and criminal. The most favorable time for operation has passed and the chances of a cure have diminished.

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J. F. Baldwin, M.D.:

It is in cases of endometritis that **the curette** undoubtedly has its principal field of usefulness. When the surgeon has an open surface with sluggish granulations he scrapes away these granulations with great benefit to his patient. The eye specialist has long since learned that in certain forms of granular lids scraping the surface is of decided benefit. So in cases of endometritis, in which the physician knows he has a thickened, unhealthy endometrium, thorough curettage with ample provision for drainage will accomplish very satisfactory results. He should, however, impress upon his patient the fact that the condition is a chronic one, and that more than one curettage may be necessary to effect a cure. In these cases, of course, the entire mucous membrane is not removed by the curette, but only its superficial and hypertrophied portions. Some cases of dysmenorrhea are associated with this form of endometritis, and will be relieved by this treatment. It should be understood, however, that each case of dysmenorrhea should be studied by itself, and that most of the cases are due to disturbances outside of the uterine cavity, and that then curettage will be contraindicated. So in cases of sterility, if we have reason to believe that the sterility is the result of such an unhealthy condition of the endometrium that the ovum cannot find suitable soil for its development, the curette is indicated.

Gonorrheal infection of the uterus is very frequently limited to the cervix. If the curette is used under these circumstances the infection will almost necessarily be carried farther up, and the second condition of the woman will be worse than the first. If the infection has already invaded the body of the womb it will almost inevitably involve the tubes, and curetting of the endometrium will be of no benefit whatever.

The curette will do no good in cases of tubal trouble, but will probably do a great deal of harm. For temporary relief the curette may check hemorrhage the result of a myoma, but



the benefit is temporary, and unless the reasons for palliation are very pronounced the curette should not be resorted to.

In cases of hemorrhage when all tubal disease with more or less extensive adhesions can be excluded, and the hemorrhage may be looked upon as the result of a fungous endometritis, or of retention of pieces of placenta or membrane, the curette may be advantageously used.

The curette should not be used except for some well-defined and positive indication. Unless there is a clear indication for the curette its employment will do more harm than good, almost certainly. Much of the benefit which follows its employment is to be attributed to the purgation which has preceded its use, the rest in bed and the dieting which followed, and the mental impression made upon the patient. Finally, under all circumstances, curettage should be looked upon as an operation for which the patient should be prepared with great care. Under no circumstances should it be a routine office procedure. While it may be thus used with impunity in a large number of cases, the average results will be attended with so much disaster as to render the operation under those circumstances usually unwise and hence imprudent.



R. A. Gove, M.D.:

Most medical men believe the **obstetric forceps** are the most valuable appliance which man has yet invented. No other instrument has prevented so much suffering or saved so many lives. It is also true that their improper use has done much harm to both mother and child. Obstetricians should have clear and intelligent ideas as to how and when the forceps should be used. This instrument should not be used as a dilator for a partially dilated os, and it is capable of doing great harm to the tissues when there is a tendency to spasmodic contraction. In these instances the fingers, thumbs and hands are usually sufficient for the purpose and much safer.

The obstetric forceps are positively indicated in cases of inertia of the uterus during the second stage of labor. In such instances extraction should be made slowly and carefully. They should be used in all cases of exhaustion, and also in parturient women when there is lessening of the pelvic diameters, instead of resorting to the process of version. In slow face presentations the forces are to be employed. In occi-

pito-posterior presentations it is proper to use them if the position cannot be rectified. The second stage of labor should not be unduly prolonged and forceps should be employed to expedite the birth of the child. The conscientious obstetrician should carefully study each case and act accordingly. The lithotomy position is the correct one. The forceps should never be applied until after rupture of the membranes.

As to the choice of the kind of forceps, the long ones are the best. No one who has not used them can realize what a valuable addition to the long forceps the axis traction rods are, and how much more safely and easily a woman can be delivered by using them. The forceps should be applied to the sides of the head of the child if possible, and if not they should be applied laterally as to the pelvic diameters. Traction should be made only during pains, unless the uterine inertia is not complete and in this instance traction should be made at intervals of a few minutes and no undue haste should be made. When the forceps are found to have been applied obliquely to the head they should be removed and re-applied. Anesthesia should be to the surgical degree before resorting to the forceps.

The most serious injuries which a mother sustains in child-birth are generally those experienced in her first labor. In a primiparous labor, the relaxation of the parts proceeds usually very slowly, as compared with the progress made in succeeding pregnancies. The long-continued pressure of an arrested head produces most disastrous results to the parturient canal and the indications are perfectly plain when the maternal tissues are hot, dry, edematous or discolored to immediately proceed to deliver by means of the obstetric forceps.

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R. Mildred Purman, M.D.:

As it may become a serious obstacle to labor, **pelvic contraction** is a subject of importance to the obstetrician. During the last three months of pregnancy the patient should take a sitz bath at night and during the last six weeks she should take them three times daily.

The diet should be carefully supervised during the last two months and carbohydrates and liquids practically eliminated, as these seem to tend to an over development of the fetus. Prochowink's diet allows no liquid other than from ten to fourteen ounces of red wines daily.

I give the patient a diet list allowing beef, chicken, lamb, fish, eggs, cheese, cream, olive oil, butter, spinach, lettuce, asparagus, string beans, and one pint of fluid daily, and excluding liver, veal, pork, bread, potatoes, milk, sugar, syrup, honey, grape-juice, beans, carrots, beets, and fluids.

General rules may be outlined for the treatment of contracted pelvis, but other factors must be considered beside the degree of contraction. The condition and surroundings of the patient, the condition of the child, the force of the labor pains, the technic of the operator, and the size of the fetal head. The latter has a tendency to increase in size with highly intellectual parents, with advancing age of the parents, when they are of different nationality or when the husband is an unusually large man.

In all cases of absolute contraction of the superior strait, namely a conjugata vera of 6.5 cm., Cæsarean section is the only alternative, no matter what the condition of the child or mother; and with a living child and the mother in good condition it is the operation of choice for any conjugate below 7 cm., in flat pelves and 7.5 cm. in the generally contracted.

Symphysiotomy should never be performed with a conjugata vera under 7.5 cm. If the child is dead, craniotomy should be done in any case where the conjugata vera is over 6.5 cm.

When a conjugata vera is 9 cm. or over, in generally contracted, and 8.5 cm. or over in flat pelves, spontaneous labor will frequently occur or the labor may be terminated by the use of forceps without too forcible traction. The Walcher position may aid in the engagement of the head by lengthening the true conjugate.

It is the patients having a conjugata vera between 7.5 cm. and 9 cm. in generally contracted, and 7 cm. and 8.5 cm. in flat pelves who require an expedient line of treatment, preferably in a hospital where prompt operative measures can be instituted as indicated. After two hours of hard pains in the second stage without engagement of the head, it is not considered advisable to delay longer but to perform Cæsarean section at once.

If the patient is not seen until she has been in labor some time or her surroundings make it impossible to perform an aseptic operation, it is better to apply forceps; but if the child cannot be delivered without too violent traction, they should be

discarded and craniotomy performed. However, some of the best obstetricians teach that craniotomy should never be performed on a living child.

The use of forceps is contraindicated until the head has become fixed and then they should be used cautiously to avoid rupture of the pelvic joints.

Version is recommended by some, but it offers the child less chance than a vertex presentation. It is often an advantageous procedure, as far as the mother is concerned and with secondary uterine inertia, a floating head and, with a contraction that is not too marked, it would seem to be justifiable.



J. T. Graham, M.D.:

One of the first things to be observed in the **practice of obstetrics** is the completeness of the physician's preparations for the case at hand. Everything likely to be needed must be arranged in a convenient place, and in an orderly manner. All this, when done quietly and without bluster with no unnecessary display of instruments, will give a feeling of confidence to the patient so necessary to the success of the physician.

Then there is the question of the position of the woman during labor. The English position, on the side, the American, on the back, are the two positions we heard of in College; but in practice we find there are many variations, and why shouldn't there be? During the first stage of labor, the woman will be more comfortable, and materially hasten the progress of her labor, by sitting up. Grandmother's old armed rocking chair will be found most comfortable, and during the pains the arms of the chair, gripped by the hands of the patient, furnish a good support for the push or pull. The pains seem to be more effective with the woman in the upright position during this stage, dilatation goes on more rapidly, and the patient does not become worn out as quickly as she would if confined in bed either on her side or back.

It was my misfortune to have studied medicine just at the time when antiseptics were being lauded, and the value of asepsis had not been fully recognized. I was taught to use the antiseptic douche in my cases of obstetrics, both before delivery and after. Some of my patients got well in spite of this treatment. But I had more or less trouble as long as I continued to use the douche. I now consider it not only useless but ab-

solutely dangerous, especially the douche after delivery. More trouble will be carried into the open uterus than will be washed out of the distended vagina by any douche—antiseptic or aseptic.

In cases of instrumental delivery, if the labor has been unduly prolonged, and when repairs have been made to a mutilated perineum, a creolin douche may be used with safety and benefit to the patient; but in the majority of cases I do not use douches, nor do I let the nurse use them.

There has been a great deal of discussion for and against the use of ergot during labor; and finally the consensus of opinion against the use of ergot before the termination of labor seemed to predominate. But no question is ever settled until it is settled right. The use of small and often repeated doses has brought about a great change in the application of many drugs, New and wider fields of usefulness have been discovered. It is so in the use of ergot.

The thing of greatest importance in the eyes of old lady and neighborhood critics is not the successful and proper delivery of the placenta, not the prevention of post-partum hemorrhage, but the supreme test of his skill as an obstetrician is his ability to "dress the cord." He may succeed in every other particular, but failure here is failure indeed.

I had some trouble along this line by trying to use the doubled and twisted spool cotton rope that was always prepared for me by someone assuming the place of nurse. The spool cotton is just as good as tape for tying the cord if it is doubled two or three times, but never twisted. When twisted and then doubled and twisted again, you have a coarse string with spiral edges that resembles a small augur and it is almost impossible to tie it tightly enough around the cord to prevent the oozing of blood from the severed vessels, and frequently the hemorrhage is sufficient to call for another tying.

For dressing the cord, nothing is better than a fold of absorbent cotton about four inches square with a hole cut in the center. Draw the cord through this hole, fold the cotton over it as a mother wraps up her boy's cut finger, and then a good fitting "belly-band" will keep it in place.

W. H. Long, M.D.:

The administration of ether after the manner formerly taught—that is, by means of one of the inhalers of the closed type, was usually an experience by no means pleasant for the patient. The sensitive mucous membrane of the air passages, taken by surprise by a sudden flow of almost pure ether vapor, rebelled powerfully, and strangling and choking were most frequently observed. This was followed almost invariably by a stage of excitement more or less marked, and, surgical anesthesia once attained, the anesthetist was very frequently troubled with the profuse secretion from the irritated larynx and upper air passages.

In beginning, we should certainly begin at the beginning, and in our effort to produce anesthesia that shall be as nearly free from discomfort to the patient as satisfactory to the surgeon, and as free from worry and anxiety to ourselves as is possible, we should try to take everything into consideration. To begin with, we certainly want our patient in a condition as nearly approaching mental complacency and calmness as it is possible to get him. To that end, our anesthesia room should be quiet. There should be no more attendants than are necessary, and no onlookers or unnecessary sympathizers. The anesthetist should avoid all appearance of hurry or anxiety. All the conversation indulged in should be between the patient and himself. And right here is a place where suggestion—so potent in our therapeutics all over the field of medicine—can be used to great advantage. The patient is reassured, encouraged and claimed. He is instructed to breathe naturally, full and slow—‘just as you do when you are asleep.’ He is assured that he will not be strangled or choked. The head is lowered to one pillow (which is removed when unconsciousness is reached), a towel is placed over the eyes, and, while the anesthetist still talks in a calm, quiet, reassuring manner, the ether is commenced drop by drop, the mask held some inches above the face. The ether is in this way administered so gradually, and with the admixture of such a large quantity of air, that the air passages are rarely irritated to the extent of causing coughing. The larynx and bronchi become accustomed to the vapor, so that it may be gradually increased, as the cone is lowered. In this way, with the fewest number of exceptions,

we get surgical anesthesia without discomfort to the patient, without any stage of excitement, and without vomiting in the early stages. Thus we have made the early stage of ether administration as free from distress to the patient as is the administration of chloroform.



J. L. Dryden, M.D.:

Of such infrequent occurrence is **vaginal epithelioma**, at least in my own experience, that I have thought it worth while to report the following.

Was called in consultation with Dr. Blanke in the case of Mrs. J., about thirty years of age and the mother of a five-months baby. The recent history was an intermittent fever with chills that came at irregular intervals, and a persistent offensive discharge from an ulcer just within the vagina on the right anterior wall. She was thin, but of fair appetite, slept fairly well, but was decidedly anemic. Did not suffer any great pain except just before the breaking of the so-called abscess.

The remote history was that of ordinarily good health. When a girl, she sustained a fall astride of a piece of timber, striking with the full weight of the body, under the pubic arch. The soreness resulting from this fall did not subside for quite a while.

During her pregnancy her attending physician discovered what he called a fibrous growth occupying the anterior wall of the vagina, and anticipated its causing some trouble in her coming confinement and suggested that after her confinement it should be removed. Labor came and passed without more than some delay on account of the fibrous barrier.

She did not recover her strength as rapidly as she should and in the course of a few weeks developed a fever with occasional chills, and the fibrous mass became painful, and after a few weeks it opened of its own accord and discharged freely a thin ichorous offensive pus. On examination I found a hard seemingly fibrous mass involving the anterior arch of the vagina, almost surrounding the urethra and extending back and opposite the base of the bladder. The mucous membrane covering it was pale, dense and smooth, and on the right side was a crater-like excavation with pale clear-cut margins from

which oozed a thin bloody pus. The growth was firmly fixed on each side seemingly to the ramus of the ischium, but with a sound in the bladder it was slightly movable on the urethra. For this reason I decided that I might dissect it away from the urethra and curette it from its more firm attachments. I may have been in error but I believe the procedure was sanctioned by Dr. Jones, who was present and rendered as good assistance as was possible to do. I succeeded in dissecting it away from the urethra except at the posterior part, or at the neck of the bladder, where I exposed the outer surface of the mucous membrane. The growth was simply detached laterally and removed. This left a denuded area, the entire surface of which was as large as the palm of my hand. There was not much hemorrhage. The sound was removed, the vagina packed with gauze and the patient put to bed.

A little later, while cleaning up, an inspection was made and found that bleeding was profuse. She was immediately placed on the table again, packing removed and an effort made to find the bleeding point. It was found, however, that the bleeding was a very free oozing from almost the entire denuded surface. After trying the styptic effect of hot water with no avail, the vagina was firmly packed and a solution of iron was hurriedly procured which diluted one in three and then one in two, and finally full strength was directly applied before the hemorrhage was controlled, and to guard against a recurrence a piece of gauze was saturated and placed over the entire area, the vagina firmly packed and patient again returned to bed. The patient was completely exsanguinated, but subcutaneous injection of salt water and hot rectal enemas of same brought about a reaction. On the next day the packing was removed and while there was no recurrence of the hemorrhage it was found that a part of the urethra was absolutely destroyed, particularly that part which was denuded, presumably from the corrosive action of the iron. There was involuntary urination for several days, but the vesicæ sphincter being unimpaired she soon regained perfect control of it. She gained strength slowly and after about six weeks was able to go to relatives in the southern part of the state where she continued to gain in strength and weight, spending much of her time in the open air. She, however, had a recurrence of the hemorrhage which was exceedingly difficult



to control. She returned to the city, where she spent a few weeks in a hospital, and again went to relatives and in about four months died.

At no time was there any disposition to contraction or healing of the surface. She always urinated without difficulty through the urethral orifice at the neck of the bladder and maintained good control of it except toward the latter part of her illness, when the disease probably invaded the sphincter.

There was little in the clinical aspect of this case that would lead me to the diagnosis of epithelioma, but after careful sectioning and staining by Dr. C. A. Barnard he pronounced it a typical fibro-epithelioma.

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## Translations.

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**Cancer of the Cervix and Pregnancy.**—Darvilliers (La Clin.) points out that when cancer is present in the uterus it is usually aggravated by the occurrence of pregnancy, the youth of the patient and the changes which occur in the tissues both tending to favor its propagation. The increase in the peri-uterine lymphatic circulation promotes the rapid spread of the disease. Galabin has reported a case in which the cancer began at the fifth month and had become inoperable by term. Other observers assert that cancers which develop together with pregnancy progress much more rapidly than those which have existed beforehand; thirty-three per cent. of these cases abort, the direct cause for which is generally endometritis. Pestalozza found that labor was often delayed owing to the destruction of peripheral nerve endings and their action in producing labor. Nearly fifty per cent. of the infants are stillborn, otherwise they are as healthy as the offspring of healthy mothers. The effect of labor upon a cancerous cervix has its risks, as the diseased tissue is only distended with difficulty, and there is a danger of fissures or lacerations resulting, often accompanied by hemorrhages which may prove fatal.

Delivery is slower than is usual; it is common to find uterine inertia retarding matters, due probably to the weak state of the mother, to albuminuria, or to the degeneracy of the muscle fiber. Death is liable to supervene from shock or from septicemia following rupture or severe lacerations. It is rare to find the tumor obstructing the genital canal. Secondary deposits have been found in all the viscera, but not in the placenta or

chorion or amnion. The question of surgical intervention has been much discussed, as it entails the sacrifice of the child in most cases. Pregnancy should not be a contraindication for operation when the fetus is less than six months, and when the chances of success are fair it is unwise to defer operation, as the disease makes such rapid progress. It is desirable to remove the uterus and its appendages freely, with as much of the pelvic cellular tissue as possible and any glands which one is able to define. At term, operation may be undertaken to avoid the dangers of labors for both the mother and child. Cæsarean section followed by hysterectomy is without doubt the measure to adopt, unless the exhausted condition of the patient should render it impossible.

**Indications for Premature Rupture of the Membranes.**—Rudaux (La Clin.) considers that rupture of the membranes before the onset of labor is an accident of pregnancy, but under certain circumstances the practitioner must rupture them as a therapeutic measure. Such treatment is most urgently called for when the placenta is situated on the lower segment of the uterus, and when the patient has either serious or repeated hemorrhages in consequence. In such a case, if the pulse is small and has a continuous rate of more than one hundred per minute, the usual antiseptic precautions must be taken, and it must be ascertained that there is no transverse presentation present which requires to be manipulated; the membranes must then be ruptured freely. The high pulse-rate may be associated with attacks of fainting, with blanching, or with giddiness and noises in the ears.

The same treatment is required during pregnancy if a premature detachment of a normally placed placenta occurs; the symptoms are a rapid alteration in the general health, great hardness of the uterus, accompanied by shock, and a high pulse-rate. In rapidly increasing hydramnios it is necessary to evacuate the uterus during pregnancy, thus terminating the pregnancy. Such intervention is indicated when the size and tension of the uterus impedes respiration and circulation, as is shown by the presence of dyspnea and asphyxial complications; when the general condition shows a loss of weight and appetite, sleeplessness, fever, etc. At the same time the amount of urine secreted in twenty-four hours is less than a pint, there are abdominal and costal pains which prevent rest and sleep.

**Radiumtherapy for Metrorrhagia and Dysmenorrhea.**—Fraenkel (Sem. Méd.) having observed that the application of the Roentgen rays, even on parts at a distance from the genital organs, caused retardation and diminution of the menses, has conceived the idea of employing radiotherapy in the treatment

of menorrhagia, metrorrhagia, and dysmenorrhea. He has treated fourteen patients of this sort, and has found decided improvement after ten or twelve sittings, even sometimes after five or six. The pains have disappeared, the hemorrhage has decidedly diminished, and the effect has lasted until the third period after cessation of the treatment. Five patients suffering from leucorrhea were cured, and the only inconveniences complained of were a little vesical tenesmus, which most of the patients experienced, and some headache and nausea, which affected two of them. The treatment should be begun during the first half of the month, and only two or three sittings are necessary during the second half. In favorable cases, two, three, or four sittings a month will subsequently be found sufficient, but care must be taken to locate the applications in such a way as to avoid the sterilizing effect of the Roentgen rays upon the ovaries.

**Warm and Cold Applications in Infections of the Peritoneum.**—Danielsen (*Zentralbl. für Chir.*) opposes the statement made by Gelinsky in a previous number of the *Zentralblatt*, that by reason of its capacity of stimulating absorption and peristalsis, and probably also of preventing infection, heat is indicated for local application in the treatment of acute infective diseases of the abdomen. Though acknowledged to be beneficial under certain conditions, heat used indiscriminately in cases of this kind would, it is held, tend to do harm rather than good. It is well known, Danielsen states, that the application of increased heat to the peritoneal cavity by means of hot compresses and hot air causes dilatation of the blood vessels and intense hyperemia, and also accelerates the activity of the circulation of lymph. This increased circulation in both the blood vessels and the lymphatics favors, as has been proved by experiment, active absorption by these vessels of crystalloid and colloid substances, and also of bacteria.

On the other hand, it has also been proved that this active absorption may be checked by the application of cold. By these experimental results it is shown that cold and heat are two useful agencies in the therapeutics of acute abdominal disease, as by the former absorption can be controlled if dangerous, and by the latter it can be favored if such course be of advantage to the patient. The external application of heat, the author holds, is indicated only in those cases of peritonitis in which the infection presents a mild form. Here, he states, it would be right to set up active hyperemia and to stimulate absorption. In cases of intense and grave infection, on the other hand, he would endeavor to hinder absorption of the virulent infective material by the application of ice to the surface of the abdomen. There are no precise scientific means of determining the degree and extent of the infection; but in

clinical work a fair idea may, it is stated, be gained from observations of the tongue and pulse, and of the general condition of the patient.

**The Opening of Tonsillar Abscesses.**—In 1893 Ruault described a method of opening peritonsillar abscesses from the supratonsillar fossa, and in 1896 Killian recommended a somewhat similar method. Neither of these methods appears to have gained many friends, and in a few instances have led to very conflicting reports. A. Meyer (Berl. klin. Woch.) has employed a method which is almost identical with Ruault's, without being aware of this origin of the procedure, in over one hundred cases during the last three years, and speaks of it in terms of high satisfaction. He points out that the tonsil lies in a space enclosed in front and behind by the pillars of the fauces, and limited above and below by the triangular fold and by the semilunar margin. The supratonsillar fossa lies between the triangular fold, the arch of the palate, and the upper pole of the tonsil. The mucous membrane in this situation possesses from two to four diverticula which lead to that portion of the tonsil which lies behind the soft palate, and which correspond to tonsillar crypts. The greater part of the tonsil is covered by a fibrous capsule, and lies on the constrictor pharyngis, but the crypts of the supratonsillar fossa pass completely through the muscle. For this reason peritonsillar abscesses usually develop from acute or chronic inflammatory processes of the crypts. A careful study of the anatomical relations shows that the line of least resistance must be toward the fossa—and, in fact, the most common situation for the abscesses to burst is here. Anticipating the spontaneous cure by therapeutic means, Meyer considered that the abscesses should be opened from the fossa. The head is held straight and the tongue is depressed. A. Schmidt's tonsil-opener with its front portion measuring about 1-4 cm. bent at right angles is introduced into the fossa, is pressed through the thin covering membrane, and the point is then pressed upwards and outwards until it enters the abscess. One then makes a rapid, firm movement, withdrawing the instrument and enlarging the opening in so doing. He claims that it is easy to hit off the pus every time, provided that one does not enter in the space between the pillar of the fauces and the tonsil. The instrument, which is in reality a blunt hook, is much more suited for finding its way into the abscess than a scalpel, and he believes that in a number of cases in which he succeeded in opening small abscesses without difficulty he would have failed to have found the pus with a lancet. In this way one can open the abscesses earlier, and thus shorten the process of healing. Besides, he finds that some patients refuse the doctor permission to use a knife, but do not oppose the use of a blunt instrument which looks like a probe, although

he owns that it causes just as much pain as the sharp-edged tool. He recommends this method to all practitioners.

**Resection of the Shoulder-joint.**—Catterina (Zentralbl. f. Chir.) points out that a rational method of resection of the shoulder should fulfill the following conditions: (1) It should do as little mischief as possible and not endanger any important vessels and nerves; (2) it should be free from difficulty in its performance; (3) it should permit free exposure to sight of all parts of the joint; (4) it should be applicable to every case in which resection of this joint is indicated. The method here proposed by the author consists in temporary resection of the outer third of the clavicle, this fragment of bone, together with the intact deltoid muscle and its circumflex nerve, being turned outwards. By this method, which is free from danger and suitable in all cases, especially in reduction of old anterior dislocation of the head of the humerus, the interior of the joint is freely exposed. The skin incision extends from a point in the neck about two inches above the junction of the middle with the outer third of the clavicle, downwards over the interspace between the deltoid and pectoralis major muscles. After section of the clavicle it is necessary, in order to obtain free external rotation of the outer fragment, to divide the attachment of the trapezius, the subclavius, and the coraco-clavicular ligament. After resection of the joint the outer fragment of the clavicle is replaced and fixed in its normal relations by sutures.

**Internal Podalic Version for Bandl's Ring.**—Bar defines podalic version as a process by which it is possible to change a face or shoulder presentation into a breech presentation (Journ. des Prat.). Bandl's ring is situated at the lower limit of the mixed fibers—that is to say, of those fibers which constitute the greater part of the muscular uterine wall, and which are responsible for the expulsive force. This ring is the chief obstacle in internal version. Version is usually performed when the fetus is at or near term. The part of the fetus which it is wished to displace always lies in the lower segment of the uterine canal—that is, below Bandl's ring, and the part which it is necessary to bring down lies above Bandl's ring. Version only successful when the fetal part which lies above the ring is made to replace the part below the ring, and the success of this operation depends upon the speed with which the part lying below the ring can be induced to pass above it. The operation should be undertaken as soon as dilatation is complete and before the membranes rupture. If the membranes rupture before dilatation is complete this process must be hastened.

The best method to employ for this purpose is the introduc-

tion of tents into the cervical canal. In order to overcome the tonic contraction of Bandl's ring the patient should be deeply anesthetized. The hand is then introduced slowly along the ventral surface of the fetus; the fingers and hand are insinuated between the fetus and the ring, and with the back of the hand the ring is pushed in every direction in which there is any resistance. When it has yielded, and only then, a foot may be seized and brought down; a ligature is then attached to it. The foot should never be drawn upon for the purpose of delivery until it is quite certain that the presenting part has retired above the ring. If there is any doubt of this while the foot is retained by the ligature, the hand may be reinserted and the fetal part below the ring be pushed upwards and forwards; an assistant at the same time should make pressure on the fundus, and thus support the uterus and assist the descent of the breech. The operator, by working slowly and without force, and by pushing the part always forwards as well as upwards, will presently find the obstruction overcome and the way clear. Version, properly so-called, is then finished, for the presenting part has passed above Bandl's ring; then, and only then, can delivery be safely begun.

**Malignant Tumors of Spermatic Cord.**—Tédenat and Martin (*Arch. Gén. de Chir.*) publish an original case of a large malignant growth of the spermatic cord, and add to this abstracts of twenty-four collected records of this rare affection. Malignant disease of the cord they find it nearly always of the connective-tissue type, the tumor being in some cases a pure sarcoma presenting round, fusiform, or giant cells, but more frequently a mixed growth, in which, as in malignant growths of the parotid, the sarcomatous elements are associated with these of fat and cartilage. In some cases a sudden evolution of malignant characters has been preceded by a slow growth of the tumor, which clinical fact indicates, the authors suggest, malignant degeneration of a benign growth, usually a lipoma. Epithelial growths of the spermatic cord are very rare, and, when they do occur, have probably originated in embryonic debris of the Wolffian body. The scrotal portion of the cord is much more frequently attacked by a malignant growth than the inguinal or retro-inguinal segments. The tumor may involve only the intrafunicular connective tissue, or it may grow from the duct or one of the vessels. Again, the common fibrous envelope or the loose perifunicular connective tissue may be the starting point of the disease, and then the growth is rather a scrotal than a funicular one. The tumor in some cases is small, and in others it may acquire enormous dimensions. In the operative treatment of funicular tumors the authors hold that even when the growth can be readily enucleated, the testes, and as much as possible of the affected

cord, should be removed. Although the primary results of surgical intervention are excellent, the prognosis in regard to recurrence is held to be doubtful.

**Delivery in Special Cases.**—Dudaux (La Clin.) discusses the technique to be followed under certain special circumstances. As a rule rupture of the membranes does not occur until labor has begun; occasionally it occurs a few days before delivery. In such a case, after the expulsion of the fetus a very abundant antiseptic intrauterine douche should be given; the surface of the uterus is still covered by the placenta and membranes, so that it is the cavity of the ovum which is cleansed, and a second douche is given after the delivery is complete. As a prophylactic measure many practitioners give at the same time a subcutaneous injection of antistreptococcic serum. Intrauterine lavage ought to be preceded by a vaginal douche, as the cannula is liable to carry bacteria from the vagina into the uterine cavity, where an open wound is ready to become infected.

The same treatment is required when the fetus has died and had time to macerate, and also after breech presentations when delivery has been difficult and green amniotic fluid has been observed. It is also advised when it has been necessary to introduce the hand into the uterus or to perform embryotomy. Fetal putrefaction is a special indication for intraovular and intrauterine lavage as well as for antistreptococcic injections. In twin pregnancies a double ligature is placed on the cord of the fetus, which is delivered first; half an hour after the second delivery the placenta is expressed. In abortion and premature labor the technique is similar to that followed in delivery at term, but in abortion it is usual to wait rather longer unless there are complications or unless it is a criminal abortion. In a molar pregnancy no traction is exercised, and the precaution is adopted of allowing the placenta to be delivered spontaneously. After expulsion it is wise to introduce the hand into the uterus to make certain that no vesicles remain attached to the uterine wall, and that the muscle of the uterus has not been invaded by the degenerated chorionic villi.

**Fatal Streptococcic Infection from Fibroid Uterus.**—Siredey and Lemaire (Comptes rendus de la Soc. d'Obstét. de Gynéc.) reported a case where a patient with fibroid uterus died after typhoid symptoms had developed. Her age was not stated; she had borne four children, three had died of bronchitis. She had been a widow for fifteen years. She was admitted into hospital on May 30th last, suffering for a week from high fever. On May 20th the period appeared, on the 22d she quarreled with her son, who kicked her in the abdomen; the

period at once ceased and abdominal pains set in. On admission, the uterus was found much enlarged and the temperature  $104.5^{\circ}$  with a bad pulse and dry tongue. The typhoid bacillus could not be found. The patient died on the fourth day. There was no sign of peritonitis, the intestines were not even congested. In the uterine wall lay an interstitial fibromyoma of the size of two fists. It was not necrotic, but little abscesses were detected in the uterine muscle around it, and also under the serous coat of the uterus. Histological evidence of streptococcic infection was found in the uterine wall, the spleen, liver and kidneys. There was much discussion when this report was read. Siredey declared that the Fallopian tubes showed no sign of disease, nor was there any morbid change in the endometrium; but he admitted that neither of these structures was examined histologically. Pinard held that Siredey was right in ranking the case as pure streptococcic infection arising in a fibroma. Pozzi thought that traumatism was evident. The kick contused the uterine tumor, which might have been slightly infected already; anyhow the streptococcus was probably present in the uterus at the time of the injury which determined the general infection.

#### **The Question of the Sensibility of the Abdominal Organs.**

—Halm (Zentralbl. für Chir.) supports the view held by Lennander that the abdominal organs in man are not sensitive in regard to pain, pressure, warmth, and cold; and that the pain associated with disease of one or more of these structures is due to irritation of the parietal peritoneum. On the other hand, Kast and Meltzer have been led by the results of laboratory research to the conclusions that the abdominal viscera are really sensitive under both normal and pathological conditions, and that the insensibility noted in surgical work and in the operation room is caused by the general action of injected cocaine. The author of this paper, though not questioning the correctness of these experiments on animals, still supports Lennander's view of the insensibility of the abdominal organs in the human subject. A case is referred to in which, after the use of a few drops of Billroth's mixture for suppressing pain during the incision of the skin, the stomach, intestine, liver and gall bladder were found to be quite insensible to both instrumental and digital contact during a prolonged gastro-enterostomy on an intelligent man aged forty. The slightest traction on the stomach or intestine, and pressure on the parietal peritoneum, at once caused severe pain. This instance, together with others derived from prolonged surgical investigation, have convinced the author that the abdominal organs in man are insensitive to mechanical and also to thermal irritation, and are not susceptible to pain.



**Treatment of Face Presentations.**—Rudaux (La Clin.) considers that in face presentation the practitioner must learn how to wait, as much harm is done by interfering with Nature. These presentations, which do not include brow presentations, are diagnosed by palpation and vaginal examination. If the contractions allow it, the depression of the neck may be felt between the smooth surface of the back and the round hard head. The examination *per vaginam* permits the face and features to be distinguished and the position made out. The chin can seldom be definitely recognized, but its position is indicated by the nose, which does not become edematous, and of which the nostrils are always distinct, and point towards the chin. If these orifices point to the right the presentation is a right one; if at the same time they are directed towards the sacro-iliac symphysis the presentation is to the right and posterior. Face presentations occur once in every 250 labors.

The author advises that no attempt be made to change the presentation into a vertex, but that the face presentation be accepted both before and after the head is engaged. The course of labor is slow; very few vaginal examinations should be made, but it is well to auscultate often, so as to recognize early any signs of distress on the part of the fetus. When the chin is not directly under the symphysis the movement of flexion should be retarded, and great care should be taken of the perineum at the time of expulsion. When the head is not engaged in the brim of the pelvis and the membranes are unruptured, internal version can be performed. If the membranes have been ruptured for a long time and there is marked contraction of the pelvis, only symphysiotomy or Gigli's operation will save the child. When, however, the head is engaged the forceps must be applied, but there are cases where the chin rotates backwards and there is so much impaction that the forceps cannot be put on; if the child is to be extracted alive the pelvis must be enlarged. If the child is dead or its life is hopelessly compromised, the use of the basiotribe is indicated. In applying the forceps special care must be exercised, and a finger should be passed into the mouth to ascertain whether extension of the head is complete, or to complete it by pressure on the roof of the mouth.

Delivery is not possible unless the chin lies under or near the symphysis pubis. It is, therefore, necessary to assist rotation to complete itself before exercising traction downwards. After the chin has been brought out from under the pubic arch, it is time to promote flexion of the head by raising the handles of the forceps. This must be done gently, because the forceps only hold the head by its parietal eminences and the grip is easily displaced. The usual precautions against perineal lacerations must be adopted.

**Appendicectomy.**—Le Bec (Sem. Méd.) has devised a method of appendicectomy which, he states, prevents the development of a ventral hernia at the seat of the abdominal incision. This operation is only for those cases in which the abdominal wound can be closed without drainage—namely, for those cases in which pus formation is absent, and in which the signs of acute inflammation have entirely subsided.

His method is as follows: The skin incision is made at the external border of the right rectus muscle and parallel to it. The incision begins 1 cm. below a line joining the anterior superior iliac spines, and extends upwards for about 5 cm., or further if necessary. The subcutaneous tissue and the aponeurosis of the external oblique muscle are incised in the same way. On retracting, the sheath of the right rectus is seen; this is incised along the border of the muscle at the place where the aponeurosis of the transversalis is inserted. Cut through the posterior layer of the rectus sheath and the transversalis fascia and make a small opening in the peritoneum, which is then exposed to view; seize the edges of the cut peritoneum with pressure forceps and prolong the incision in it upwards and downwards. Find the appendix, separate any adhesions, and bring the appendix into the wound. Tie the meso-appendix with one or more ligatures. Incise the peritoneal covering and a small layer of the muscular coat of the appendix about 2 cm. from its base, separate these parts from above downwards towards the cecum so as to form a cuff, the size its borders with three pressure forceps. Tie the appendix as low down as possible with catgut, divide the appendix with the thermocautery, and cauterize its central cut end. Turn back over the divided stump the collar of peritoneum and tie it circularly with catgut. Close the peritoneum with a continuous catgut suture. Place two pressure forceps on the edge of the transversalis muscle, and pare with scissors the aponeurosis of the internal oblique so as to expose its muscle fibres.

Now take a long piece of thick catgut; pass it under the transversalis parallel to the axis of the wound, in such a way that the middle of the ligature shall be under the muscle about 2 cm. from its free border and its ends come through the muscle, one at each end of the wound. Pass the ends of the ligature under the rectus and draw them through this muscle and its aponeurosis at each end of the wound; draw the two ends of the ligature together and tie firmly. By this method the transversalis is drawn strongly inwards and placed beneath the rectus muscle, to which it forms firm adhesions and a very strong cicatrix results. The aponeuroses above this muscular cushion are united by catgut and a deep suture, traversing the muscular cushion and skin, is passed about the middle of the wound and the edges of the skin drawn together by means of Michel's hooks.

# THE JOURNAL OF SURGERY GYNECOLOGY AND OBSTETRICS.

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## DYSTOCIA WITH SPECIAL REFERENCE TO SYMPHYSEOTOMY.

BY N. H. CHAMBERLAIN, M.D.

Dystocia or difficult labor has been the curse of the women of all ages, but appears to be decidedly on the increase in these modern times. Labor at best is the cause of so much suffering, and being entirely unavoidable, it is the more the pity that it should be at any time abnormally difficult and painful. In all other branches of medicine prevention is the keynote, but in this palliation is the only consideration. This is my excuse for directing your attention to this time-worn but never exhausted subject.

We have only to do at this time with those causes of dystocia which have to do with a disproportion between the maternal pelvis and the fetal head. Certain cases of deformity of the pelvis might be included where but moderate contraction results, and the true conjugate is not less than  $7\frac{1}{2}$  cm. In just this class of cases the judgment of the accoucheur is severely tested many times in deciding just when interference is necessary and which of the various methods should be selected, viz., forceps, craniotomy, Cæsarean section, symphyseotomy, or pubiotomy.

Of all these methods, I wish to speak particularly of the last two, viz., symphyseotomy and pubiotomy. Symphyseotomy was first done in Paris in 1777, by Dr. J. R. Sigault. He was successful, so far as the life of the mother and child were concerned, in spite of a conjugate of 6.5 cm. due to rachitis and a previous history of four still births; but the mother was left with an impaired gait and a permanent urinary fistula. This success resulted in the operation becoming very popular, but a succession of failures and a large mortality from sepsis resulted in its discontinuance except in Italy, where it was done occasionally until, in 1866, Dr. Morisani of Naples championed the method and was able in 1881 to report fifty cases with forty recoveries.

Since then it was re-introduced in France by Spinelli and used in one hundred cases by Pinard and also by several Americans since 1892. English obstetricians have not favored the procedure, so that up to a few months ago only ten cases had been reported in England, where Cæsarean section seems to be the operation of choice.

In 1898, Bonardi in Italy performed extra-median symphyseotomy called also pubiotomy or hebotomy, with a Gigli chain saw. Since that time pubiotomy has gained in favor and has many European friends, notably Doederlein, Van de Velde, Rosenfeld, Henkel, Bumm, Reifferscheid, Seeligmaun, and Zweifel.

Except when comparing symphyseotomy and pubiotomy later and when giving methods of operating, I wish to use the one word symphyseotomy to include both.

Symphyseotomy has been used long enough to be given its place in obstetrics definitely and need not be looked upon as competitive of craniotomy or Cæsarean section but rather to fill the breach between these operations. Craniotomy upon a living child should be very seldom if ever performed any more, but should always be resorted to without hesitation when the child is dead, if there is any dystocia. Cæsarean section is plainly indicated when the child is alive and the disproportion between fetus and maternal pelvis are too great to make symphyseotomy practicable, also in Naegeli's pelvis, transverse positions, and many other conditions which it is not our purpose to discuss in this paper.

Pelvic measurements and careful study of the relationship of

fetal head and maternal pelvis, and the flexibility of the fetal head will enable the obstetrician to decide when a moderate increase in the size of the pelvis will enable the living child to be delivered. Authorities differ in their opinion as to the smallest size limit of the conjugata vera where symphyseotomy is feasible, some giving 6.5 cm. as the minimum, and others 8.5 cm.

The fact is that the size and flexibility of the fetal head must always be taken into account and therefore no minimum can be made absolute.

Sigault's case had a conjugata vera of 6.5 cm.

Many experiments have been performed to determine what increases in the pelvis may be expected from the operation and they are apt to be misleading and therefore disappointing. These experiments go to show that only two millimeters are added to the conjugata vera for each cm. of separation of the symphysis. The fact is that the transverse and oblique diameters are increased in much greater proportion, and that even a slight separation at the symphysis increases the total horizontal area of the pelvis very materially. As the separation at the symphysis may amount to at least 6 cm. (or  $2\frac{1}{4}$  inches) without injury to the sacro-iliac joints and this amount of separation has been calculated by Doederlein to increase the area of the superior strait by one-half, it must be apparent to all that such increase is of very practical use in selected cases.

Symphyseotomy must be regarded, not so much as an independent operation, but as accessory to many other obstetrical operations. Whenever in high forceps, version, or vaginal Cæsarean section, the pelvis must be increased in horizontal area not to exceed one-half, symphyseotomy is indicated.

The operation is counter-indicated before complete dilatation of the cervix, when the fetus is dead, when the sacro-iliac joints are ankylosed, when the conjugata vera is less than 6.5 cm., when the fetal head is inflexible and the disproportion between the fetal head and maternal pelvis is too great and usually in Naegeli's pelvis, although there may be exceptions in the last.

History teaches us that this operation has been attended by many accidents and post-operative complications. The accidents have been chiefly rupture of the urethra or bladder, hemorrhage and injury to the sacro-iliac joints; the causes and prevention of which will be discussed later.

The post-operative complications have been chiefly sepsis, hematoma, permanent separation of the bones, urinary fistulae, vesical paresis, arthritis of the sacro-iliac joints, and disturbance of the gait. It is probable that there is always some permanent enlargement of the pelvis, which is favorable for future labors if it does not result in pain or disturbance of gait. Many other complications have been recorded unjustly by enemies of the operation, such as bedsores, myelitis, phlegmasia alba dolens, which are coincident or a complication of the labor and not due in any wise to the symphyseotomy.

The mortality from this operation was so high as to be prohibitive before the perfection of aseptic technique. According to Edgar's quotations from the statistics of Rubinoth about 1900, the maternal mortality was 11 per cent., and the fetal mortality was 14 per cent.

I have no accurate statistics of the mortality during the last five years, but De Lee stated in a short article about two years ago as follows, viz.: "The mortality, it must be admitted, of reported cases is very low and let us hope it will continue so, since any operation that will reduce the frequency of craniotomy is to be welcomed fervently." As the mortality has been due almost entirely to sepsis, it is reasonable to believe that the operation should now be considered very safe, with a maternal mortality less than craniotomy.

The anatomical points of interest in connection with this operation are the internal pudendal artery, the bulb of the clitoris, the urethra, bladder, ligamentum arcuatum, obturator foramen, spine of the pubes and symphysis pubis. In symphyseotomy proper the incision is made in the center through the symphysis and ligamentum arcuatum and does not involve any vessels of consequence, though some small anastomosing vessels are apt to be injured, especially just above the clitoris, and sometimes the venous plexus in the prevesical space is injured and causes a troublesome hemorrhage.

In extra-medial symphyseotomy, the bulb of the clitoris is usually injured together with the internal pudendal artery; the obturator foramen may be opened.

As to the technique of operating there are a few general directions which apply to all methods and will therefore be mentioned first. The parts must be thoroughly cleansed, shaved, and rendered as sterile as possible, the rectum and

bladder must be emptied, and the patient placed in the dorsal decubitus. The urine is carefully noted for any sign of blood, so its future appearance may be of help to determine whether or not the bladder has been injured.

It is very necessary to have the legs supported and not forcibly separated widely, as in this manner serious injury may result to the sacro-iliac joints. If separation of the pelvic bones is insufficient, careful separation of the legs will increase the space, but as the leverage is very great this cannot be considered a safe procedure. Walcher's position may be used to assist the enlargement of the pelvis as a supplementary measure.

There is great difference of opinion as to the method of delivery of the child after the operation.

The Italian method or that done by Morisani, consists of an incision over the upper margin of the pubes exposing the bone. Galbiati's knife is inserted behind the bone, the curved point engaging the cartilage beneath its lower border. With a stroke of the instrument from below upward and behind forward, the symphysis is divided. He waited for spontaneous delivery, then sutured the skin, and applied a plaster cast to hold the pelvis until the symphysis united.

The French method, known also as Pinard's method, consists of an incision exactly in the middle line, considerably longer than the Italian—extending from above the pubes almost to the clitoris. A few fibers of the rectus muscle are divided so as to admit the finger into the prevesical space to protect the bladder. The symphysis is divided with a curved probe-pointed bistoury from above downward and from before backward.

The expulsion of the fetus is then left to the mother. After expulsion a few periosteal sutures are inserted, and the skin-wound sutured, as usual. Sometimes the pelvis is immobilized and sometimes trusted entirely to the periosteal sutures.

The American, or Ayres, method is described best by Edgar as follows: the urethra and bladder are to be held to one side with a sound. The initial incision must be made a little above the subpubic arch and under the elevated clitoris. The left index finger is introduced within the vagina and held against the posterior aspect of the joint. A narrow tenotomy knife is then passed up to a point within half an inch of the summit of the joint, beneath the overlying soft tissues. A probe-pointed bistoury is then substituted for the tenotome and carried to the

top of the joint, where it meets the index finger. It is then carried downward through the joint until the latter is felt by the index finger behind to give way. An assistant now presses a small gauze compress against the incision beneath the clitoris. If possible, the child is then delivered with the forceps. When pressure is made upon the pubic bones, the bladder must be held to one side.

A number of methods of pubiotomy are described but all operations, so far as I know, agree that it should be done subcutaneously—the methods differing only in the direction of the incision of the bone and of the insertion of the needle.

Doederlin makes a small incision over the upper border of the os pubis just internal to the pelvic spine. This incision is made just large enough to admit the finger, which is used to separate the tissues from the upper and posterior surface of the bone.

A Gigli saw is then passed around the bone, using the finger as a guide. The handles are applied and the bone sawed from within outward.

Bumm uses Stoeckel's needle, which is inserted from below at a point between the large and small labium and is directed toward the pubic spine. The handle is depressed so as to make the needle hug the bone posteriorly as closely as possible. Its course is directed by a finger in the vagina and the point emerges above the pubes. By attaching a carrier, a Gigli saw is drawn through and the bone sawed from within outward.

Henkel insists that the needle should be inserted from above downward, as he claims less likelihood of hemorrhage.

The various advocates of pubiotomy differ in their after-treatment with reference to immobilizing the pelvis. Some not applying any bandage and claiming the patient may get up on the seventeenth day.

I have one case I wish to report, a little girl of one month under seventeen years of age when she was first confined. She gives a negative family and personal history and was very normal every way, except with a justo-minor pelvis; the measurement (all external) being as follows: anterior iliac spines 19 cm., crest of ilii 25 cm., intertrochanteric 28 cm., oblique 19 cm., conjugata 15 ½ cm., and interischial 7 cm. In the measurement of about 200 pelves I have found the following to be the average normal measurement (external):



NORMAL	MY PATIENT	
	BEFORE 1ST CHILD—AFTER	2D CHILD
Interspinous .....	19	20
Intercristal .....	25	26
Intertrochanteric .....	28	30
Oblique .....	19	21
Conjugate .....	15½	16½
Interischial .....	7	8

In the first confinement February 22, 1906, labor was very severe by 1 A.M., and dilatation was complete by about 5 A.M. Forceps were applied but it was soon evident that the child could not be delivered with the forceps alive, and if force sufficient to deliver was used, the mother must surely be severely injured; therefore, at 9 A.M., symphyseotomy was performed in the following manner: after the usual preparation, already mentioned, including catheterization and in the dorsal decubitus, an incision was made directly over the symphysis and about 5 cm. in length and down to the joint. After hemostasis, an ordinary scalpel was used and the joint cut through from before backward and from above downward. The incision was not made by one bold cut but cautiously by a sawing motion of the knife, and thus continued until the bones sprung apart, which they did rather suddenly when the incision was sufficient. No means was used for the protection of the urethra and bladder, except a little caution, with the anatomical relationship in mind.

The bones separated at least two-finger-breadths. The incision was covered with an aseptic dressing, and labor allowed to proceed, which it did, and at 11 A.M. we were rewarded by the arrival of a real boy weighing 7½ pounds and that without the assistance of the forceps. Three open figure-of-eight silkworm-gut sutures were used to close the incision, including the periosteum. The mother was kept in bed for a month with a snug hip bandage and felt some weakness of the pelvis for two or three months. No complication or sequela arose, and her gait and all habits are as normal as ever.

November 29, 1907, she was again confined, real labor pains developing about 9.30 and delivery unassisted resulted at 1.45 in the birth of an 8½ pound baby.

I was unable to be present at this time and by my request, she was attended by Dr. H. J. Lackey. There were no lacerations of the soft parts at either confinement. Examination re-

vealed a permanent separation of the pubic bones of about 2 cm. but, as already stated, without any interference with any function. She has recently developed a retroversion which is giving her some trouble, the displacement being probably due to lifting her children and overwork because of inability to get competent help.

I wish to register an earnest plea for the substitution of symphyseotomy or pubiotomy or Cæsarean section for craniotomy when the child is living, and especially for either of the first two in properly selected cases, where a moderate increase in the size of the pelvis is sufficient to allow the delivery of the child.



## SURGERY OF THE PLACENTA.

BY C. E. FISHER, M.D.

The humble placenta!  
The vascular placenta!  
The despised placenta!  
A surgery all its own?

To sustain the suggestion to its fullest clinical value it becomes necessary to briefly consider the histology of the organ, and to include in the discussion various pre-placental conditions.

In its earliest weeks the fetus is nourished by the chorion.

This consists of two layers—an epithelial layer, or the side next the fetus, and a connective-tissue layer, or the side next the uterus.

Later these become the internal and external layers or coverings of the placenta.

The connective-tissue layer becomes most intimately associated with the serotina by means of projecting villi, which so deeply imbed themselves in its structure that separation, except at term, is almost impossible.

These villi are possessed of central cores through which the maternal blood passes to the epithelial layer, where it comes in contact with the fetal blood without the two currents being intermingled.

### Pre-Placental Considerations.

It is hardly necessary to go more deeply into histology.

Enough has been recited to form a base for the surgery of the pre-placental period and to lay the groundwork for that to follow.

There is no “Presto-change!” between the stage of nourishment by means of the chorion and the placenta proper.

’Tis not in the twinkling of an eye nor in the shadows of a night that the chorion ceases its function and that of the placenta begins.

Clinically, pre-placental surgery and the surgery of the organ in manhood, to use a figure of speech, are not partitioned by a dividing line across whose boundary there is no invading.

During the first few weeks of pregnancy the chorion and uterine mucosa are a veritable tangle-web of new structure. The roots of a shrub are hardly more intimately ramified into the surrounding earth than are the chorionic villi into the substance of the mucous lining of the uterine cavity. And 'tis this intimate intertwining of villi and serosa that gives so much trouble in early incomplete off-throwing.

In the construction of the placenta its connective-tissue layer is exceedingly vascular. It lies in direct contact with the uterine membrane and becomes an integral part thereof till the close of term. Likewise in the pre-placental period, the chorion is intimately associated with the uterine mucosa and very vascular, and is separable by force only, as is the case with the placenta up to the moment of normal labor.

It is also correct to state that at no time from the moment of conception to the completion of term is separation of either easily possible, the element of force invariably entering into the act of expulsion. It is true that the placenta matures as term is reached and makes ready to be cast off. Nevertheless, it is also true that no small degree of force is required to do this casting, and unless nature exercises that force with consummate intelligence and accuracy of effort, it becomes necessary for the accoucheur to supplement it according to the rules of obstetric art.

Avoiding pedantry and further detail, and coming directly to the clinical consideration of the subject, the surgery of the placenta begins with abortions.

Correctly speaking, every abortion is a surgical case.

This thought can hardly be too strongly emphasized.

The complete abortion is so seldom the exception as to be almost to be ignored in this connection.

The incomplete abortion is so commonly the rule as to be considered the only type deserving to be discussed.

And every incomplete abortion becomes at once a case for surgery—else for haphazard.

#### Mechanics of Abortion.

Unless produced by disease of the envelope, of the fetus or of the mother, all abortions are occasioned by forcible rupture of the enveloping sac.

This is due either to accidental or applied force.

Traumatism is the almost invariable factor.

Whether this be induced by some unusual exertion upon the part of the pregnant woman, as by a blow, a fall, a strain, or a sudden jar, or by the abortionist by means of sounds, catheters, or other criminal procedure, it is force of some kind that does the work.

The degree to which this force is applied results in rupture of the sac and the discharge of its liquid contents in whole or in part. This destroys the water-bed upon which the normal muscular contractions of the uterus shall have been evenly spent, and which protects that organ from the irritations that the irregularities of the fetal surface would induce, allowing these irregularities to be brought directly in contact with the uterine muscle. Through the nervous influences thus incited the fetus is expelled and any remaining liquid contents of the envelope are discharged, these in no wise being adherent to or connected with the uterine mucosa.

Not so, however, with the secundines.

The chorionic villi are so firmly imbedded in the uterine mucosa as not to let go easily. Parts of the membrane and placenta almost invariably remain. Through the central cores bleeding continues, interrupted only as the uterine muscle can contract upon them successfully and thus close their calibres.

But the muscle cannot always remain in a state of contraction, even under the stimulation of drugs, and as it relaxes on again comes the hemorrhage, and there is presented the usual picture of the aborting woman becoming anemic, debilitated, and in danger from intermitting flooding.

Abortifacients generally fail to completely expel the contents of the uterus after the fetus has been cast off. The chorion was started for a nine-months' career, and with an intelligence almost human, and an obstinacy almost as human, it does its best to retain its hold. Its nourishment is obtained from the maternal circulation, and its great vascularity admits of a degree of sustenance that makes its virility like unto that of the legendary cat with the nine lives. It may be said to cling closer than a brother, exasperatingly persistent in its tenacity, almost invariably refusing to break away and allow the uterus to cleanse itself as it should, and as it would if it could.

How often this fact is the cause of wretched ill health, and how often the cause of death, will never be known.

Attempts at evacuation by drugs are ineffectual, and drug-poisonings add to the despair.

Did not hemorrhage destroy, there is still the danger, by far the greater of the two, of the sepsis of abortion, one of women's deadliest foes. The sponginess of the chorionic-serosal structure affords an unusually fertile field for the cultivation of pathogenetic organisms, introduced from without, and the post-abortion blood-poisoning becomes a reality.

Surgery is the one saving procedure in the fact of this imminent danger.

### The Surgery of Abortions.

To emphasize: every abortion is a surgical case.

To leave the secundines or any part thereof is invariably to invite danger.

The uterus should always be cleansed.

To trust the nature to do the cleansing is but to encourage disaster.

The womb cannot successfully squeeze off a structure so intimately a part of its own mucosa as the chorion has become.

It must degenerate and slough off, if left to nature.

Expectant methods are those of haphazard, always fraught with risk.

Nor are temporizing methods much safer.

The anti-bacterial douche has been too generally accepted as a saving method. To too many practitioners it is a soul-unction of the first magnitude.

But this is not sufficient for the evils of the everyday abortion. Only degenerating parts of the chorion which may have been retained within the partly closed uterus can be washed away. The adherent villi, the imbedded chorionic projections, and the intertwined vascular twigs are not so easily dislodged that a liquid stream can detach them.

The chemical douche is beneficial in putrefactive cases, which should never be allowed to occur, and has saved many a life. Whereas, correctly applied surgery would avoid the putrefaction for which the douche is applied, also reaching those in which it is inefficient.

Furthermore, there is always the likelihood, accounted by many as not inconsiderable, of the ostia being sufficiently relaxed to admit of offending particles being washed into the tubes, there to become a nidus for fallopian infection. Better the douche than nothing, but better surgery than the douche.

*Curettage the Sine Qua Non.*

In curettage lies salvation.

It is ineffectual unless thoroughly done.

It is not an insignificant procedure.

It is never to be carelessly performed.

Of all subjects for the curette the recently-aborted is the one demanding skill and thoroughness.

Cases far removed from the aborting moment are rarely dangerous.

The recently aborted woman is always liable to hemorrhage and acute infection.

Therefore, of her it must be said an experienced surgeon is required, and her curettage should be performed, whenever possible, under the extremes of surgical precaution.

Trifling is never permissible.

Haphazard is always reprehensible.

Carelessness is always condemnable, an invariable invitation to disaster of high or low degree.

*Surgical Surroundings Not Always Obtainable.*

Unfortunately for the woman, as also for the obstetrician, abortions are rarely attended by favorable conditions.

Floodings occur in the night, at odd hours, in humble quarters, among the middle classes and poor, where there are no hospitals, where no surgeon is at hand, where ideal surgery is impossible.

These are the cases that try men's souls, that encourage neglect, that necessitate a rare degree of self-reliance, that tax human ingenuity and professional skill.

He who masters the adverse surroundings of the average criminal abortion is deserving of both a harp and a crown.

The patient is generally enfeebled by hemorrhage and polluted by sepsis; when the accoucheur is called he finds asepsis impossible, antisepsis difficult of practice, sepsis too often the rule.

The picture is not infrequently repellent:

Humble quarters, ill-kept apartment, dirty bed, slovenly woman, workingman husband, some granny the croaker, water bucket empty, fire down or out, every sheet and towel, every napkin and pillow case, every quilt and blanket already in requisition and no washing for a fortnight.

It is easy to preach of ideal surgery, proper surgical procedures, and classical surgical surroundings. But conditions, not theories, confront the practitioner and he must do the best he can.

The tidy man will know how to bring order out of chaos. The handy man will know how to improvise to meet conditions. The cleanly man will be prepared for just such emergencies.

The accoucheur's bag will always contain a Kelly pad, sterile gauze, sterile towels, and absorbent cotton.

Any dining-room or kitchen table may be quickly transformed into an operating table by sponging it off with a ten per cent. carbolic solution, covering it with a blanket or comforter folded several thicknesses, sprinkling it well with the carbolic, covering it with a clean sheet if there be one at hand, sprinkling this also with the solution, then placing a Kelly pad in position and over it a towel from the accoucheur's package; this, also, soaked in the carbolic solution or in strong bichlorid.

Before the best light obtainable, usually a lamp or candle if in humble quarters, directed upon the field of work, place the woman on the table in lithotomy position and set to work.

Seated on a chair, stool, or box, according to the wealth of furnishing of the apartment, the necessary instruments and dressings from the accoucheur's kit may be spread out upon a stand, a chair or another box, according to the necessity of the case, on sterile towels or on any cloth soaked in carbolic solution, a soft rubber apron protecting the operator as he prepares for his work, the ready man will proceed expeditiously and systematically to his task.

The first step is the thorough cleansing of the external genitalia, thighs, and buttocks, usually badly soiled. Ordinarily it would be accounted pedantic to enter into this degree of detail. But observation of the work of more than one careless practitioner seems to demand it.

If there be a razor in the bag, and it should always be there,



and a small bottle of synol or other liquid soap, and there should always be one, lather the hairy parts and shave them.

If the razor be absent, employ scissors and the scalpel.

Get as clean a surgical field as possible.

Of course if the woman was bleeding badly upon arrival the wise man would have immediately packed the vagina temporarily, with anything at hand. For this purpose the ordinary gauze roller bandage or any other long strip of gauze, dipped in the carbolic or bichloride solution, will suffice. A clean handkerchief likewise treated will do better than nothing.

The woman in position, the pudendum shaved, the other exposed parts rendered as aseptic as possible, the vagina next needs attention.

Cleanse it as clean as it can be cleansed.

Remove all clots, douching thoroughly with hot carbolic solution, one to forty, by means of your own douche bag, always a part of the obstetrician's outfit, or by wiping them away with gauze and cotton if there be no hot water and no fountain syringe.

Next, either a Sims' or a large bi-valve speculum may be introduced—though the Sims' is much vaunted I prefer the bi-valve for this work, as it saves an assistant and holds itself in situ—the woman well to the edge of the table, her thighs flexed upon her body and held by anyone happening to be at hand, a light over the shoulder, the operator is ready to proceed.

In outlying practice this work has had to be done by feeble Rockafeller glow or by candle or tallow dip, with insufficient assistance and under extremes of awkwardness.

With a volsellum forceps the anterior lip of the cervix is to be grasped and drawn well into view. If sufficiently dilated, and it generally will be, immediately introduce a sharp curette and set to clearing away the retained débris. If large bits of placenta already protrude these may be removed by fingers or forceps, and if considerable chunks are retained the St. Cyr spiral curette will be found a most admirable instrument for their removal.

The way cleared, nothing suffices like the sharp curette. It will cause some pain, but the conditions demanding its employment make pain a lesser consideration. Consolingly assure

the patient that it will not hurt much, that it has to be done, that but a minute or two will suffice, but be sure to cleanse the pouch.

Exercise caution, and use the curette freely and effectively, with courage and intelligence, and, above all, thoroughly.

Passing its blade to the fundus scrape from above downwards to the cervix in successive applications until the entire circumference of the uterus shall have been curetted in vertical direction, and every particle of retained placenta and secundines shall have been evacuated.

The finger with a brain in its tip will have little difficulty in determining when the islands of decidua are encountered, nor will it be uncertain when these shall have been scraped away.

To the sense of touch the muscular structure of the womb imparts a feel to the instrument not unlike that which may be imagined from the curetting of the lining of a chicken gizzard. All soft, succulent, degenerating structure that blocks the free movement of the curette in its downward strokes should be freely and fully scraped away, until the gristle-like grate of the instrument and the uterine muscle is imparted to the finger with unmistakable certainty.

Leave nothing to degenerate and pollute.

With reasonable care there is no likelihood of doing harm.

Uteri have been scraped through and pierced with sounds, but so much force is required, and these accidents should be guarded against as sedulously as thoroughness should be practiced.

Curettage completed, in less time than it has taken to write how it should be done, the uterus should next be carefully wiped out and as carefully packed to the utmost of its receptivity.

This sounds simple, but it is not always easily performed. In the operating room, with ample and skilled assistance, with good light and every convenience at hand, it is as child's play for the experienced operator. But in the hovel of the poor or in the narrow confines of the workingman's castle, by poor light, with extemporized conveniences and with associates palsied with fear or terrorized with alarm, and utterly ignorant of the first idea of how to assist intelligently, it is no small undertaking to attempt an ideal uterine toilet.

Yet by the exercise of patience and skill it may be accomplished and the woman will be saved, while the accoucheur-surgeon may go home and to his bed with the comforting sense of security that comes from a knowledge that he has dammed the crimson flood and will not be called later in the night to find his patient bleeding again and the family once more in terror.

#### Packing the Uterus.

With the uterus drawn well down toward daylight a little knack will enable the attendant to pack it well without great difficulty. The accouchement bag will always contain either a bottle of sterile cordine or a gauze bandage. Either will do, but the smoothness of the cordine makes it easier of carriage. Whichever be employed should first be soaked in carbolic solution or in a weak bichloride water. Much or little packing will be required, depending upon the stage at which the abortion has occurred, the size and flaccidity of the uterus, whether primiparous or multiparous, and upon other considerations.

A Bozeman's probe-pointed dressing forceps is the ideal instrument with which to carry gauze to the fundus uteri, one of the blades serrated, the apposing one smooth, and with a little knack the process may be done quickly. The uterus will have to be held and the cervix straightened out under tension by the volsellum forceps to make the procedure easy of accomplishment, and the gauze or cordine should be held loosely in the palm of the hand which controls the forceps, so as not to allow it to come in contact with unclean parts as it is being carried to its field.

The uterus should be packed tightly enough to incite free and firm contractions in a few hours, the entire occupancy of the cavity serving meanwhile to block the bleeding points and surfaces, thus avoiding further loss of blood.

The free end of the packing should be allowed to hang well down in the vagina to facilitate its later removal, and the vaginal packing, which should be complete, should inclose the cord within its mesh. Every portion of the birth canal should be snugly packed to comfortable distention, but the urethra should not be harshly compressed against the pubes.

As an external toilet a generous pad of absorbent cotton enfolded in a sterile towel should be snugly pressed against the cleansed external parts and be bound in place, and the woman be put to bed.

#### Resourcefulness in Outlying Practice.

In the country and in small cities and towns the practitioner will often meet with conditions in emergency work to which the surgeon of the city is so completely a stranger that he can hardly conceive of their existence. In the country the writer has been taxed to the uttermost to save life under the most extravagantly adverse conditions, nor is it necessary to draw too dark a picture to portray the necessity for resourcefulness and self-reliance.

To illustrate: Since this paper was begun there came to my bungalow in the North Carolina mountains an aborted woman, the wife of a physician, in acute post-abortion hemorrhage of severe degree. She had ridden seven miles on a mountain-climbing construction engine and had climbed a considerable hill to the hospital, her exhaustion being the more complete therefrom, and felt the necessity of retiring to the toilet room immediately. There a violent flooding occurred and she called for aid. A nurse at once attended her and tried to help her to a bed. The hospital was but fifty yards away, but the life-stream was flowing so rapidly that it was out of the question to get her to the operating room. Her clothing and the floor were covered with crimson blood, she was as blanched as a sheet, was gasping for breath and sinking in a faint, there was no pulse at the wrist, she was bathed in cold sweat, and her look was that of death.

Gathering her in my arms as she was falling I carried her to my own bedroom and placed her accross my bed, on a Kelly pad which was at hand, and without stopping for sterilization performed an immediate curettage. With the St. Cyr spiral curette considerable chunks of retained placenta were removed, after which the sharp instrument was called into use and a thorough scraping was performed. This was followed by a complete packing of carbolated cordine, every nook and crevice and cranny of the womb being filled to distention.

I have rarely seen a more vicious flooding than occurred in this case. What would have been the result, had it occurred

with the patient on the engine or climbing the hill? The life-stream poured away in a torrent and the patient was so exhausted and exsanguinated that it was full two weeks before she was able to leave my cottage and return to her home in the valley.

In cases like these the packing may be allowed to remain twelve to twenty-four hours, when it should be removed and a sterile or carbolic douche be used for the cleansing of the vagina. It is not often that a second packing of the uterus will be required. In the illustrative case just recited the husband called and took charge a few hours after the initial service, and decided to leave the packing which had been inserted until firm contractions had expelled it—the “bogus baby” of Pratt—but the uterus was unusually tolerant and did not rebel at its presence. In consequence it was allowed to remain forty-eight hours, and when removed was exceedingly offensive and the patient was already on the borderland of sepsis. It is rarely well to leave the packing beyond a day.

In rural practice farther South I have had this work to do under conditions far worse than those recited, and it is for those similarly situated and uncomfortably placed that so propedeutical a consideration has been given this part of the subject.

Quick-thinking, quick-acting and thorough work will overcome many a difficulty and solve many a problem involving serious dangers, under conditions far removed from the desirable, still farther from the ideal. It is here that ingenuity and self-reliance insure success where many a college professor and successful surgeon, accustomed as they are to favorable conditions and ideal surroundings, would be put to their wits' end.

#### Surgery of Placental Pathology.

Following upon abortions and miscarriages the placenta develops a pathology which requires surgical interference.

Not only is this true, but there is also a placental pathology quite independent of these mishaps.

Of the first-named the typical case is that in which particles of the decidua, or of the placenta proper, have been left adherent to the uterus and have been sufficiently nourished to retain their vitality. These continue to grow until a fleshy

mass, or mole, will have formed. In time, generally within from three to five months, the presence of this mass within the uterine cavity will set up contractions which will partly separate the offender and sharp hemorrhage will ensue.

Beyond more or less regular and intermittent contractions and sharp floodings there is no special symptomatology. The patient's general health is good, there are but minor simulations of pregnancy, and rarely is there discomfort beyond heaviness, bearing-down symptoms and occasional indications of miscarrying.

Once the contractions become pronounced, however, a spurious labor sets in and the mole is expelled. The cervical dilatation is slow and correspondingly painful. There is no preceding bag of waters to open the way. Intermittent floodings occur as the successive contractions separate the mass more and more from the uterus, the pain is more dysmenorrheic in character than like normal labor pains, and until the mass is squeezed loose from its mooring and the cervix is dilated, the patient is in agonizing distress and alarming hemorrhage may add to the concern.

The diagnosis will pivot upon the history of previous abortion, subsidence therewith of the accompanying discomforts of early pregnancy, violent uterine contractions without known cause, and the occurrence of metrorrhagias. Once the mass presents at the cervix the finger will confirm the diagnosis by its firmness and resistance and by the absence of the customary fetal anatomy.

The surgery of the decidual mole is simple.

It may be expressed by the one word, "removal."

The management of the case properly belongs to the department of the accoucheur rather than the surgeon, and yet it is not enough to see that the mole is expelled and the flow is checked. Inter-uterine examination, either with finger or sound, is required to know that the entire cavity is free from retained decidual debris, and as a rule curettage should be as thoroughly done as in the primary abortion. Had it been practiced then no serosal mole would have followed.

#### The Mole of Decidual Apoplexy.

A different variety of mole is that springing from the decidual by means of an apoplexy within its coats. This oc-

curs early in pregnancy. From some cause or other, probably dyscrasial, rupture of decidual vessels allows of an escape of blood between the layers and a clot forms. If it is not large it may be absorbed, in whole or in part, and cause no trouble. But if considerable in size it may partly or completely organize and form a sarcomatous mole, whose presence sets up contractions and an abortion follows.

Here, again, inter-uterine surgery comes into its own, and dilatation and the curette should complete what nature has left undone. Rarely the ovum may be expelled entire in these cases, but this not often. The very organizing of the clot produces an unusually close adhesion to the uterine wall and a troublesome post-abortion hemorrhage is very likely to characterize its separation.

It may happen that the uterus will tolerate the presence of the "creature" throughout the entire period of pregnancy and the child not suffer. It may also happen that the mole will be expelled as component part of the placenta, a placental myoma, as it were the separation from the uterine wall being complete.

On the other hand, the converse may be viewed. The organization of the myoma may have been so complete that it has almost become an integral part of the uterine muscle, and if it and the placenta be quite firmly adherent or compounded we then have the "retained placenta" in deed and in truth, with no inconsiderable hemorrhage and no end of difficulty in removal.

Herein lies a field for the surgeon which must not be overlooked. To allow the placenta to remain indefinitely is always to invite disaster. So long as it stays in utero there is the likelihood of alarming, even fatal, hemorrhage. The placenta cannot be dragged away by the cord when so firmly imbedded. Packing to the degree of safety is not to be thought of. Vaginal packing is but a blind.

The patient should be put upon a table with ample assistance at hand, and, fortunately there is generally time to get help; under aseptic precautions the hand should be introduced within the uterus, the other hand of the operator over the organ and acting in unison with the internal member, and the placenta and mole should be carefully separated from the uterine wall.

By following the uterus with the external hand and grasping it firmly as the mass and internal hand are withdrawn, it can

be so completely controlled that dangerous hemorrhage can be avoided.

These are cases that formerly got ergot in large doses, and that yet get it too often. It excites contractions, it is true, and these oftentimes separate the mass from the uterine wall. But it incites contractions of the circular fibers of the uterus and closes the internal os, retaining within such débris as should be thrown out, encouraging sepsis and preventing proper uterine drainage.

Ergot is permissible only where surgery is not attainable.

It is a tetanoid, and capable of very great harm.

Where the placental adhesions are sufficiently firm to create the danger belonging to them, ergot is of little avail.

It generally makes a bad matter worse.

If employed at all it should only be when there is nothing within to be expelled.

And only then is it applicable if the patient has been so prostrated by her ordeal that uterine inertia and its secondary hemorrhages endanger life.

Even here I greatly prefer the simillimum.

The antithesis of hyperplasia is atrophy.

It occasionally happens that the ovum finds lodgment upon the uterine mucosa and gains a foothold, but that there is no compensating uniform development of the germ and decidua.

The deciduæ are atrophied.

This being the case, the ovum sets its face toward maturity on perhaps a very small decidual island. It has not been sufficiently nourished to make a good embryo, but it holds on to its little island and does the best it can. Gradually, as the weight of the embryo develops, its weight drags upon its attachment, strings it out and a pedicle is formed. The fetus sinks lower into the cavity of the uterus until it rests at the internal os, and its weight pries open that door and it lies within the cervix. Here it becomes what is termed a cervical pregnancy. Eventually the limits of the cervix are reached, or the pedicle becomes strangulated by the internal os, and abortion follows.

Again surgery is required at the site of oval attachment. The decidua was primarily unhealthy, and a thorough curettage is needed upon general principles. Furthermore, the limited site of attachment of the embryo needs to be thoroughly cleansed, after which a cordine packing, medicated by a ten per cent. carbolic solution, the excess being well-squeezed from the packing, should be instituted. Such uteri will bear a number of after-treatments of this nature to advantage.

*(To be Concluded.)*



## FORCEPS IN UNCOMPLICATED CASES.\*

BY WM. E. GEORGE, M.D.

The development of the obstetric art or science of the present day, from the early and instinctive customs of our savage ancestors down through the mazes of superstition, error, and experiment, has been fraught with much needless suffering and peril to the parturient woman. It has been affirmed that labor is growing progressively more complicated; that the difficulties attending parturition are more frequent and serious than in the past, and that the proportion of abdominal presentations is greater with each succeeding generation.

It is not our present purpose to discuss these allegations, although we might find much of interest in comparing the records of the past with those of the present.

However, such data are available to all alike, and to even review them briefly would consume more time than is proper or profitable. Of the abnormal and unusual conditions, much has been and will be written, all of which is highly important as well as interesting; but the only point which this paper is designed to cover is that of mitigating the suffering or reducing the hours of anguish, of the large number of cases that run a reasonably normal course.

Probably ninety per cent. of all cases will be found in this latter class, and to discuss a few phases of the average labor, leaving out the occasional abnormal one, is not to minimize the importance of a thorough preparation for the unusual conditions which are sure to be encountered from time to time.

Among our present-day women, especially in cities, where the sympathetic nervous system is more delicately organized and the muscular development correspondingly less energetic than among who live a simpler life, there is a growing need for shortening the actual hours of labor, so that parturition may be accomplished with the least possible shock, with its subsequent tardy convalescence during the lying-in period. The twentieth-century woman has become so accustomed to having her physical burdens lightened and is so intolerant of prolonged suffering,

\* Read before the Ohio State Homœopathic Medical Society, at Dayton, Ohio, May 12, 1908.

that she does not, neither should she be expected to, endure the pains of labor with the stolidity of her savage sister. We must meet the conditions as they are, and not merely lament her lack of fortitude exhibited during parturition. It is probable that a knowledge of the suffering at this time, is a potent factor in deterring many women from assuming maternity and that the full assurance that adequate aid could and would be extended during labor might rob gestation of much of its terror.

The obstetrician should be in full sympathy with his patient, if possible guiding her daily life from the time of conception to its termination in labor. Much may be done to prepare her for the final ordeal, if a real interest is felt and shown; professional advice, to be productive of the best results, must be imparted by a mind free from sinister or sordid motives, and originate in a purely unselfish desire to be helpful. If every prospective mother would regard her physician as her friend, reposing in him the trust that he ought to deserve, giving to him fully and freely her confidence, she could aid him materially in guiding her through many of the vicissitudes and over many of the obstacles incident to pregnancy and parturition. No physical abnormality should be overlooked or nervous apprehension lightly considered, as the degree of confidence felt in her accoucheur is the woman's anchor at the last, and this confidence cannot be gained by indifference or ridicule upon his part. During pregnancy, most women are subject to emotional disturbances, or fears, quite at variance with their ordinary experiences, and these are not to be dismissed as trivial, when it is possible by patient interest to allay such apprehensions, or give assurance of their being groundless.

No obstetric aid has been more misunderstood by the laity than the use of forceps; even to-day, it is not unusual to hear a woman say she "would rather die in a natural way than be killed by those horrible instruments;" and yet, in skilled hands, no harm should ever come from the use of forceps, *per se*.

As a carrier of infection, they are far less liable to inflict injury than are the hands, being subject to perfect sterilization, and no one thinks of conducting a labor without some manual aid. In tardy labors, they can be introduced through an imperfectly dilated os, with more ease than can two or three fingers, and by intelligent manipulation, assist in dilatation.

They may be used without the administration of an anæ-

thetic, giving little or no more pain than that incident to all labors. Rotation may be added, the advance of the fetal head augmented, and molding of the cranial bones assisted, all without injury to the child and with no peril to the mother. Instead of regarding the forceps as instruments of torture, the woman who has been thus aided will look upon them as her friend and helper in future confinements, and fear will give place to confidence. The young obstetrician should gain his experience in the use of forceps, in normal cases, rather than wait for the exceptional emergency, only to find himself unprepared by either skill in manipulation, or confidence in his ability to use them. Thorough familiarity with the shape and axes of the pelvic outlet, together with the relation of the fetal head thereto, is an essential, and must be studied both in books and at the bedside; but once having mastered these points, there should be no embarrassment in applying the forceps in any head presentation. With our present knowledge of pelvimetry, no case should be approached without adequate data as to the maternal measurements; excepting of course, those occasional ones when called upon for the first time after labor has progressed beyond the point where time will permit them to be made.

Every effort should be made to determine the probabilities of a normal labor, before active uterine contractions begin. "First, as to the woman's general condition and natural force. Is she, in non-pregnant life, hearty and strong, or weak? Second, in her pregnancy has she kept her blood standard; what do the urinary tests show; has she taken enough muscular exercise to keep in good condition; has she grown anemic or edematous? What is the strength of the abdominal muscles; is the uterine wall thick or thin; is there hydramnion; and always, what amount of probable dystocia has she to overcome?

Many women who on superficial examination look well, but who sit or lie down much of the time, go all to pieces immediately after labor, and are invalids for a long time thereafter. They were mere shells of health, soft and only appearing to be doing well, living under such low vital pressure that there was no demand to disclose their weakness." It is such as these, of whom there is a large number, who need the actual hours of labor shortened (although there may be no pelvic abnormality), in order to conserve their strength and add physical force during convalescence; for these the timely, even if actually unnecessary, use of the forceps is of great value.

In all cases of forceps delivery, the presentation must be

absolutely determined before the instruments are introduced, to avoid injury to the child's face. If the amnion precedes the head and the "bag of waters" prevents the sutures being felt, the sac must either be opened or more time given for spontaneous rupture, after which one finger may be passed up alongside the child's head until an ear can be felt and the presentation thus confirmed. It is always possible to apply the blades without danger of lacerating the face, except in the "high application," where the head has not engaged, which takes the case out of the province of this paper. The forceps may be applied in the interval between pains; force should never be used, and any resistance to their introduction, or undue pain on the part of the woman, should be the signal that the blade is not properly directed. If the "land-marks" have been accurately determined and the pelvic axis is considered, it is rare indeed that serious difficulty is encountered.

When the forceps have glided into place, they should lock easily, and remain so until disengaged; then, by using traction during the pain only, rotating if required, assisting the occiput to pass under the pubic bone or gently swinging the handles from side to side, the head is advanced, slowly it may be, but rapidly as compared with Nature's unaided efforts, until the distended perineum is reached. The forceps should then be removed, as the perineal muscle may be thus better protected and its laceration prevented. In most cases, except where the final expulsive efforts of the mother cannot be retarded, the perineum may be peeled back over the head between pains, and its integrity preserved.

If rupture is seen to be inevitable, it is better to use a pair of blunt-pointed scissors and make a clean cut to one side of the raphe, which will unite better and give a stronger perineal body, than after a ragged tear down the center.

But in any event, the forceps do not cause the laceration, and if the perineal muscle has been stretched and massaged by the fingers, supplemented by hot fomentations, before the head reaches it, there will be little danger of a serious tear, even in primiparæ. Lastly but of importance, is the saving of time to the physician. Certainly this should not be considered, if the welfare of the patient were in any degree jeopardized, but every obstetrician knows the frequency of uterine inertia, the weariness of waiting hour by hour, while Nature slowly, and sometimes with feeble effort, accomplishes her work. Why not, then, give the woman freedom from some of her suffering and send the doctor on his way to other duties, when the forceps can be used to terminate labor more quickly and every whit as safely?

It is for these reasons that the plea is made for the forceps delivery, in many cases where it is not imperatively demanded by actual abnormality or difficulty.

PERSONAL EXPERIENCE IN THE TREATMENT OF  
UTERINE FIBROIDS.

BY FLORENCE N. WARD, M.D.

One of the most interesting chapters in pelvic pathology is that relating to uterine fibroids,—not only are they the tumors most frequently found in the female pelvis, but so varied are their positions and so many are the complications resulting from their presence that they afford an ever fruitful subject for discussion, and it is not without profit to the general practitioner as well as to the specialist to go over the present status of opinion and to more sharply outline the proven facts about them.

During the last few years the professional attitude concerning them has generally changed,—though benign in character it is now recognized that their presence is a menace to the patient, particularly during the child-bearing period, interfering or modifying the functional activity of the ever-changing uterus. They are the grotesque perversions of the normal uterine structure,—fibrous tissue run riot,—and when arriving at a certain degree of power, casting their malign influence over every tissue and organ of the body.

After having passed through much experimentation, all are agreed that the only treatment of uterine fibroids is operative—the only question now before the profession is when to operate and when not to operate. All degrees of views are held from the extremely radical one of removing every uterine fibroid as soon as discovered, regardless of its position and size, to the other extreme of leaving every fibroid untouched unless by its presence it produces symptoms of sufficient gravity to menace the life of the patient. Between these two radically opposed views are all the different grades of opinions held by different operators.

Report of Eighty Operative Cases.—So vital is the solution of this problem in the life of women that it is well for us to enter into a consideration of the many aspects of the subject that we may more accurately formulate definite conclusions. As personal experience, if scanned aright, is always a valuable factor in arriving at results, I present the report of a series of eighty consecutive cases that I have operated upon for uterine

fibroids up to March 1, 1908, and have made an analysis of the same based upon the following lines:

First. What symptoms were common to all patients.

Second. What conditions were found to be existing on opening the abdomen.

Third. What proportion were simple uncomplicated cases.

Fourth. How many were complicated by diseases of the adnexa or surrounding organs.

Fifth. How many had modified or complicated pregnancy.

Sixth. What technique was employed to meet the requirements of each case.

Seventh. Conclusions.

Mortality Rate.—First, in regard to the mortality rate, out of the 80 cases there was only one death—or one and one-quarter per cent. and that was one of the earliest cases, No. 33 in the series (August 6, 1904), and were it to be done to-day the fatal outcome could undoubtedly be avoided by a simpler technique and a more rapid operation. It was an old neglected case, with dense adhesions and multiple fibroids growing down into the cervix. In the effort to perform a pan-hysterectomy and leave no portion of the cervix, the vaginal dissection was long and difficult, in fact too long,—the patient experienced considerable shock, developed a post-operative pneumonia, and died three days later.

Clinical History.—Of the patients operated upon, 64 were married and 16 were single. Of the 64 married women, 35 had borne no children and 29 had children, making a total of 51 women out of 80 who had had no children, or sixty-one per cent., who were childless.

In regard to the menstrual history, 11 patients had passed the menopause; in the other 69 the menstrual symptoms were alike, simply varying in degree. Menstruation as a rule was painful, irregular, long lasting, profuse, sometimes with no interval between periods. In some of the patients, a metrorrhagia existed almost to the point of exsanguination. Usually associated with the menorrhagia or metrorrhagia were the symptoms of pelvic congestion, pressure symptoms, bearing-down, and backache. After the menopause, the chief symptoms that brought the patients for operative relief were pressure symptoms, bearing-down, and backache. While there was abnormal bleeding in 48 cases before the menopause, in only two did it occur after

the climacteric, and in both these cases it was due to malignant degeneration in the fibroid uterus. Winter calls attention to the fact that the inauguration of bleeding in a fibromatous uterus after the menopause almost always means malignancy and demands radical treatment.

Complications.—Out of the 80 cases, only 12 were simple uncomplicated cases and the rest were found to have co-existing lesions as follows:

Adhesions in different degrees, 42; ovarian growths including cysts, 13; parovarian cysts, 4; salpingo-oöphoritis, 9; retroversio uteri, 9; epithelioma with fibroids of body of uterus, 2; pyosalpinx, 3; double hydrosalpinx, 2; double uterus, 1; congenital absence of tube and ovary, 1; myoma of pregnant uterus blocking the pelvis, 1; septic pregnant uterus, 1; procidentia, 10.

The simple uncomplicated cases were those where the growths were of recent origin and comparatively small. As a rule, it was found that the larger the tumor and the longer it had existed the more severe and numerous were the complications, and the greater were the secondary changes induced upon the appendages either by infection through a fibromatous uterus of low resisting power or by the traumatic results of the existing growth.

The worst class of cases for operative measures were those patients who were almost exsanguinated by prolonged loss of blood and where secondary changes had taken place in the heart muscle. Dr. H. J. Bolt's paper on "Uterine Myofibromata and Visceral Degeneration,"\* is a valuable contribution to this most important part of the subject. Howard Kelly has also written upon this complication and Dr. Charles Green Cumston deals with this subject in an exhaustive way.† He holds that the action of fibroid tumors on the heart is similar to that produced by the gravid uterus. I think all observers agree with him that cardiac disturbances occur extremely frequently in cases of uterine fibromata, many times functional disturbances from the anemia following hemorrhages, and in other cases organic lesions that follow secondarily when the myocardium degenerates either from fatty degeneration or brown atrophy, producing a crippled heart ill prepared to meet the strain of an anæsthetic or a grave operative procedure.

\* American Journal of Obstetrics, January, 1906, p. 101.

† New York Medical Journal, October 28, 1906.

These cardiac lesions play an important part in our decisions concerning the operative treatment of uterine fibroids and must always be a factor in determining how long a fibroid may be allowed to go uncared for—the cardiac element in the case must be a prominent element in the decision.

There were two cases of epithelioma associated with, and secondary to, fibroid growths in the body of the uterus. In one of these, there was found a cauliflower growth about the size of a hen's egg filling the cavity of the uterus and producing its characteristic foul discharge; the entire uterus and fibroids were extirpated by the abdomino-vaginal route, with no recurrence. In the other case, an epithelioma developed on the cervix after asupra-vaginal extirpation of the fibroid uterus. It was very rapid in its growth and soon involved the vagina. In spite of operative measures, the patient succumbed.

**Congenital Malformations.**—Two cases in the series were complicated by congenital malformations. In one patient, there was the entire absence of the left tube and ovary, and in the other patient, a large subserous fibroid had developed on the anterior wall of a double uterus.

**Complication of Pregnancy.**—In three cases, pregnancy was complicated by the existence of fibroid growths to such a degree as to modify the course of pregnancy. In one, an intra-ligamentous growth blocked the pelvic brim with a five-months' pregnancy existing. The patient had suffered with extreme vomiting throughout pregnancy and was greatly emaciated. On opening the abdomen adhesions were encountered in every direction, the uterus was pushed to the left side, and the growth was found between the layers of the right broad ligament, which was incised and the tumor shelled out of its bed. It was found to spring from the right lateral and anterior surface of the uterus by a broad pedicle. The tumor was removed, the pedicle and peritoneal surfaces stitched, using a Hagedorn needle and fine catgut. The patient made an uninterrupted recovery and went to full term, being delivered of a living child.

Both the other cases of pregnancy aborted—one at three months, in which the anterior wall of the uterus was filled with a globular tumor that rose to the umbilicus. After recovery from abortion, the uterus was removed by the supra-vaginal method. The other case presented several unusual features.



The patient was thirty-seven years of age, married two years, and had carried a large fibroid tumor for several years, but had not been willing for operation. Her menstruation, which was always profuse and painful, ceased after July 31, 1907, following which she noticed a rapid increase in the abdominal enlargement. She was sent to me by Dr. George Martin for a diagnosis January 6, 1908. I found an abdominal enlargement equal to a full-term pregnancy, irregular in outline; no fetal heart sounds could be heard nor placental bruit. The patient was placed under observation. Two days later she expelled a dead five-months' fetus, undergoing putrefactive changes, after which she had several chills, temperature 102°, pulse 120. Intra-uterine saline douches having no appreciable result, I decided to remove the septic mass, and on the 10th performed a supra-vaginal hysterectomy, exercising unusual precautions to prevent infection of the peritoneal cavity. The patient made an uninterrupted recovery. On section, the uterine cavity was found to be filled with a foul-smelling sloughing mass, which, under the microscope, showed remnants of deciduæ.

Dr. Matthew D. Mann in his article on "Fibroid Tumors of the Uterus in Pregnancy, Labor, and the Puerperal State,"\* dwells at length upon the extreme danger of sepsis following abortion or labor where fibroids complicate the case. Pelanda's statistics show that 48 per cent., in a series of 171 deaths from fibroids, were from infection. This is markedly so post-abortum, owing to the irregularities in the cervical canal and cavity of the uterus, imperfect drainage, and the tendency of the fibroids to slough post-partum. A curettement following an abortion in a septic case of fibroids is an extremely hazardous procedure, and should be replaced by an early hysterectomy in all severe septic cases.

**Surgical Technique.**—The methods employed were as follows: vaginal hysterectomies, 24; supra-vaginal hysterectomies, 38; abdominal-vaginal hysterectomies, 5; myomectomies, 13.

Vaginal hysterectomy was employed in those cases where there was a mass of small fibroids readily accessible through the vagina-intra-pelvic or where the cervix was involved in the low-growing fibroids so difficult of enucleation by abdominal route. There was an unusual number of cases of procidentia

\* American Journal of Obstetrics, June, 1908, p. 737.

about or after the menopause, in which the uterus and fibroids were removed through the vagina, followed by the necessary plastic work upon the vulva and vagina.

The 13 cases of myomectomies were mostly among young women where there were one or more subperitoneal fibroids. In none of the cases, as far as could be learned, has the myomectomy been followed by pregnancy. Six of the patients were single. In one case of multiple interstitial and subperitoneal fibroids in a young married woman, myomectomy was performed, nine fibroids were removed. The uterus was permitted to remain with the hope of pregnancy ensuing. This did not occur, but two years later it was found necessary to perform a pan-hysterectomy for rapidly growing fibroids complicated by acute pyosalpinx.

In 5 cases, the abdomino-vaginal route was chosen for the reason that the cervix was in a bad condition, or where there was pus in the pelvis and it was desirable to obtain drainage by a free opening into the vagina.

In 38 of the cases, the supra-vaginal method was chosen as affording the quickest and most direct method of attack. It was at times quite remarkable, on opening the abdomen, to observe how various were the complications co-existing with the uterine fibroids, and it was also demonstrated how impossible it is at times to accurately diagnose conditions within the abdomen before operating. One case in particular, which showed nodular masses rising almost to the umbilicus and presenting the physical signs of multiple uterine fibroids, at the time of operation resolved itself into a large tubo-ovarian abscess of the right side in which the appendix was involved,—a sub-peritoneal uterine fibroid and an ovarian cyst on the left side all involved in a mass of adhesions.

After dealing with these complicated and neglected cases—with their greatly increased risk for the patient—we must voice the plea for early operation. In fibroid operations, as in appendectomies and hysterectomies for carcinoma, the successful results depend upon early surgical treatment. The operative treatment of uterine fibroids has passed through the same evolution.

Not every small fibroid demands immediate operation, but every tumor after it is discovered should be carefully watched, its true importance realized, and upon evidence of growth or

complications, as the result of its presence, it should be removed. Statistics are constantly improving until now, among careful operators and in favorable cases, there should be almost nil mortality rate.

Choice of Technique.—The choice of technique can now be accurately outlined. The majority of cases can best be treated through the abdominal route. A supra-vaginal extirpation permits of a simple and rapid technique, and it must not be forgotten that time limit is an important element in the successful outcome.

Myomectomy is indicated in that small class of cases in the young woman where one or more sub-peritoneal fibroids exist and the uterus is saved with the hope of future pregnancy.

Vaginal hysterectomy will also be indicated for another small class of cases where there exist intra-pelvic fibroids readily accessible through the vagina—particularly in the senile cases associated with displacements and lacerations.

Conclusions.—First. Each case of uterine fibroid should be individualized and carefully watched.

Second. Early operation for uterine fibroids is conservative—a growing tumor should receive surgical treatment.

Third. Clinical surgical observation demonstrates that grave organic lesions occur secondarily and increase the difficulties and dangers of the operation.

Fourth. Every uterus during child-bearing period should be relieved of any growing fibroid that there may be no interference with its normal functioning.

Fifth. Surgical statistics will constantly grow better as the general practitioner recognizes the early signals of danger in these cases and sends them, while yet favorable, for operative treatment.



THE OPERATIVE TREATMENT OF RETRO-DIS-  
PLACEMENTS OF THE UTERUS.

BY F. BARRINGTON, M.D.

There are few subjects in operative gynecology on which more has been written in the last decade than the surgical treatment of backward displacements of the uterus. As each successive observer sets forth facts after his own fashion the subject comes to be presented in every possible light. Thus it is, though it may be in the humblest way, each hopes to contribute to a better understanding of so important and comprehensive a subject.

Treatment by Pessaries.—The days of the pessary in the treatment of backward displacement of the uterus are numbered. At best a pessary is a splint, very rarely proves curative, and is a potent factor in inducing microbic infection. Not only does a pessary fail to restore the sustaining power of the uterine ligaments, but it does harm by stretching, through persistent pressure, the utero-sacral ligaments, which are important normal ligamentous supports. Pessary treatment of single women has nothing to commend it, and should be condemned without reservation of any kind. The use of the pessary should be restricted to those retro-deviations in which it is a temporary measure only, e. g., in the early months of gravidity and in recent puerperal cases.

Preliminaries to Operative Rectification of the Displacement.—As there is invariably a resultant endometritis from the displacement, the uterus must always be curetted. The cervix may need repair by trachelorrhaphy or amputation. Any marked defect in the musculo-fascial framework of the sacral segment of the pelvic floor from the traumatism of labor must be repaired in all cases, so as to restore its supporting function, no matter what operation is selected to rectify the position of the uterus. These preliminary operations are absolutely essential of permanently good results are to be obtained. The procedure necessary to replace the uterus is carried out as a final step.

Operative Rectification of the Displacement.—There seems to be a tendency for a surgeon to wed himself to one particular operation from choice and to do this to the exclusion of others. There is a proneness, too, for an enthusiastic advocacy of one

operation, which is then suddenly dropped, and some other procedure practiced with like enthusiasm. Some practice ventro-fixation or ventro-suspension, others shortening of the round ligaments, intra-abdominally or extra-peritoneally, and perform their own favored operation on every possible case. I venture to maintain that each of the operations named has its own particular sphere of usefulness. The selection of the particular operation will depend on the pathological conditions present in each individual case. In forming a decision as to the pathological conditions present on which the choice of operation performed depends, one is guided:

(1) By the previous history of the case, especially as to the occurrence of pelvic infection following abortion, labor or gonorrhea. Careful inquiry should always be made for a history of this nature, for such being definitely elicited means that some intra-pelvic pathological change remains as a result.

(2) By the actual condition of the pelvic organs as ascertained by a careful bimanual examination, using the unaided hands, of each individual case. This should always be repeated with every care under the anesthetic immediately before operation, and may corroborate or otherwise the procedure previously planned. From a clinical and operative standpoint the cases may be divided into two groups:

(a) The displacement is uncomplicated by any pathological intra-pelvic condition. The abdomen does not need to be opened to rectify the displacement.

(b) The displacement is complicated by intra-pelvic pathological changes, which may be roughly subdivided, as they merge imperceptibly into (i.) minor and (ii.) major. The abdomen must be opened to correct the retro-deviation.

(3) By the post-operative history, as to the possibility or otherwise, of the patient continuing her reproductive career. Can the patient become pregnant, or is this impossible as the result of the pathological conditions present and our consequent operative interference?

Coming to the question of the selection of the particular operative procedure, we may take it as a guiding axiom that the aim of every method for the rectification of a uterine retro-deviation should be to imitate naturally existing conditions and as nearly as possible to utilize natural forces (i.e., normal

ligamentous supports) in the maintenance of corrected positions.

Operative measures may for descriptive purposes be divided as applying to the two groups of cases already named:

Group 1.—The displacement is uncomplicated by any intra-pelvic pathological change. The uterus is found freely movable, coming up on bimanual manipulation into its normal position of complete anteversion and slight anteflexion; there is no disease and no fixity of the appendages, and there is no history of a previous pelvic infection.

In such cases, inguinal shortening of the round ligaments (a modification of Alexander's operation) is the best procedure. Especially suitable for this operation are:

(a) Cases of retroversio-flexio in virgins and nulliparous married women conforming precisely to the aforementioned conditions; in these the operation is ideal, as it cures the pelvic symptoms in both, and in the married, often the sterility.

(b) Cases in parous women, with the uterus enlarged, retro-displaced and freely movable (i.e., there are no signs of infective salpingitis) with a deficient pelvic floor, sometimes described as the first stage of prolapse. In such, when combined with a suitable plastic operation, the results are excellent.

In carrying out inguinal shortening of the round ligaments, if the results are to be permanently satisfactory, the following points in technique must be attended to:

(1) The round ligaments must be efficiently shortened. To adequately shorten the round ligaments, the peritoneum in the shape of an inverted cone must be exposed and stripped back from each ligament, and to effect this the inguinal canals must be opened.

(2) The round ligaments must be fixed to their normal course with hernia-proof closure of the inguinal canals, effected by interrupted absorbable sutures. These sutures traverse the same structures as in Bassini's operation for the radical cure of hernia, each in addition piercing the round ligament, especial care being taken that the uppermost suture penetrates the round ligament and the margins of the internal abdominal ring as high as possible. It is easy to shorten the round ligaments too little; it is impossible to overshorten them by this method.

(3) The loop representing the slack of each ligament should be preserved, placed external to the aponeurosis, and the loop

sutured to the skin above the upper end of the incision, the fixation knot being on the skin surface.

Inguinal shortening of the round ligaments is the least dangerous of all operations for uncomplicated retro-displacements, for there should be no mortality. It is anatomically sound, for the ligaments are secured in their normal course, and when the operation is completed the parts are in the position in which nature placed them, it is reasonable to infer that the nearer we approach the normal the more correct is our surgery. It is physiologically sound, for it utilizes the natural supports of the uterus, respects its normal mobility and thereby allows the organ to adapt itself to its various functions—the successful incubation and expulsion of the fertilized ovum. Finally, the results are lasting, even after the strain of several full-time pregnancies, and in its proper field the operation may be said to be ideal.

My own personal experience of the operation, from April, 1898, to date, concerns 211 cases—single women, 58; married, 153—in 49 of which plastics were superadded. Mortality, nil; wound suppuration, 8, one badly on both sides, one badly on one side, the remaining six slight, two being deferred for some weeks. I have never failed to find both ligaments in the inguinal canals. One patient developed a left-sided femoral thrombo-phlebitis, but the remainder were up on the eighteenth day. Pregnancy has followed on nine occasions to my knowledge, and in no instance has there been any trouble during parturition.

Group 2.—The displacement is complicated by intra-pelvic pathological conditions, which may be roughly subdivided for purposes of operative selection into minor and major changes.

Sub-group 1.—There is some minor intra-pelvic pathological condition present by which the mobility of the uterus is impaired in varying degrees, but it is not fixed—e.g., light pelvic adhesions, small ovarian cyst, hydrosalpinx, etc. There are certain cases where the uterus comes up into fair position, but it sags back at once, and there is reasonable doubt as to the presence of pelvic adhesions. If pelvic adhesions are present, inguinal shortening of the round ligaments will do no permanent good, unless these adhesions are first freed. In doubtful cases of this kind—and especially if there is a definite

history of a previous pelvic infection—it is advisable to open the abdomen.

After the necessary preliminaries, a valuable procedure in the cases outlined is to open the abdomen and shorten the round ligaments in the inguinal canals, through a single transverse incision, as recommended by Peterson as follows:—The patient being in Trendelenburg's position, a transverse incision  $2\frac{1}{2}$  inches long is made through the suprapubic fat down to the fascia, slightly above the level of the pubic spines and the flap of skin raised and retracted well upwards. The abdomen is opened vertically through the sheath of one rectus so as to allow the execution of the necessary intra-abdominal work. The round ligaments are now shortened after opening the inguinal canals through the lateral angles of the original incision. The uterus is seen to be held by the shortened round ligaments in good position before the abdomen is closed in layers, and are subsequently best fixed in the inguinal canals as previously described. The transverse incision is closed. More room can, if necessary, be obtained by making the incision crescentic instead of straight. While much can be done through this incision, it has a limited range of application. It is unsuitable for dealing with advanced tubal disease or dense adhesions, which can be more efficiently treated through a mesial abdominal incision.

When the abdomen has been opened mesially, and the patient is left in a possible reproductive career, we should endeavor to closely imitate the normal conditions and employ shortened natural uterine ligaments for uterine support. We know that the round ligaments grow *pari passu* with the developing uterus in gestation and that they return to their normal condition after pregnancy. Therefore the uterus should be supported by these ligaments whenever the pelvic organs are so left that there is a possibility of pregnancy occurring.

While shortening of the round ligaments in the inguinal canals in the manner described is the ideal operation when suitable, in the more complicated retro-displacements these ligaments may be shortened by one of the various intra-abdominal operations that have been devised, after mesial section. These are too numerous to be individualized, but the procedures may be arranged as follows:

- I. A loop of each round ligament is secured by temporary



ligature in the abdomen and pulled: (a) obliquely through the abdominal wall and fixed to the aponeurosis; (b) sub-aponeurotically through each internal abdominal ring to the middle line and there fixed to the aponeurosis and to one another.

2. By folding each round ligament in various ways.

3. By carrying a loop of each round ligament through the broad ligament and securing the loop to the uterine wall.

These methods utilize natural supports, respect the natural mobility of the uterus, and are physiologically correct.

Further, the round ligaments when shortened allow the utero-sacral ligaments, which are probably the main ligamentary supports of the uterus, to regain their tone. When the utero-sacral ligaments are moderately stretched they do not need shortening, because they recover their tone, owing to the strain on them being relieved on replacement of the uterus by round ligament shortening. When the utero-sacral ligaments are found on abdominal section to be unusually long, so as to allow the cervix to hang nearer to the pubes than it should, it is advisable to shorten them intra-abdominally, thereby swinging the cervix nearer to the hollow of the sacrum, in addition to the round ligament shortening. Any of the methods of shortening the round ligaments named should always be adopted in preference to direct uterine suspension or fixation when pregnancy may follow.

I would emphasize this point: To fix a movable organ like the uterus, whose power of functioning depends on that mobility, cannot be classed as a scientific procedure if there is any possibility of pregnancy ensuing. To leave a pelvis in the hope that the uterus will functionate and then substitute a pathological condition to fix the organ so that it cannot functionate properly, is not sound. Ventro-suspension is a departure from what should be a governing axiom—Imitate Nature's methods and utilize Nature's forces. The most carefully planned suspensory operation may from a mild infection result in a fixation, so that should pregnancy occur the dangers of abortion, miscarriage and complicated labor have to be faced. These artificial fundal ligaments are pathological, composed of cicatricial tissue, inconstant in length and thickness, and, therefore, in sustaining power. If gestation goes to term, the false ligament is so permanently stretched as to outlive its use-

fulness, and the uterus must and actually does sink back to its former malposition. The results of my own cases and the observation of those of others have forced me to these conclusions. If this paper serves to stay one hand from direct fixation or suspension of the uterus in a child-bearing woman, it will not have been written in vain. For myself I must plead guilty to having performed ventro-suspension 28 times in the past on women who were left capable of child-bearing, but I can safely add that nothing will ever induce me to do so under such circumstances again. The results of shortened natural ligaments are less dangerous and more permanent in the event of gestation subsequently ensuing, and as the round ligaments share in the evolution of the uterus during and in its involution after pregnancy, such operations are based on a sound general principle.

Sub-group 2.—There is extensive pelvic disease; the retro-displaced uterus and its appendages are fixed by adhesions, more or less dense, according to the virulence of a previous infective salpingitis and its chronicity.

After curetting the uterus, the abdomen is opened in the middle line.

Ventro-suspension and ventro-fixation are to my mind only justifiable in backward displacements or prolapse after the child-bearing period or in women who are rendered sterile by disease, i.e., where both tubes have been destroyed by infective salpingitis, and consequently need removal. Here there is no need for the uterus to be free to enlarge, and it is better to fix or poise the uterus in normal position than allow it to become fixed by adhesions in an abnormal one. In removal of the appendages for inflammatory disease, where raw surfaces are left on the upper aspect of the pelvic floor, the uterus should always be ventro-suspended, whether previously displaced or not. It is purposely more or less fixed in an appropriately normal position to obviate its fixation in an abnormal one, and should invariably be done.

In some cases of retro-displacement of the uterus, where it is much damaged after separation of hopeless disease of the appendages, it is advisable to remove the uterus supra-vaginally with the appendages.

It is always desirable to leave a healthy ovary if possible, and the younger the woman the more necessary does this become.

The omission symptoms from the removal of both ovaries are very genuine. A healthy ovary should be sutured to the peritoneum above the pelvic brim or to the side of the uterus, or the utero-ovarian ligament shortened. If left, the ovary must be so placed that it will not subsequently be embedded in adhesions. If simply dropped, the ovary adheres to the raw surface from which it or its tube has been enucleated and becomes buried in fresh adhesions; the maturing Graafian follicles cannot rupture, and from periodic menstrual pain the pain becomes so constant as to demand further operative interference.

For a similar reason it is sound practice to remove the vermiform appendix in every case, when the condition of the patient permits, when there is a solution of continuity of the peritoneum on the right side of the pelvis, unless the appendix is post-cecal in position and perfectly normal. If this is not done the appendix is very apt to become adherent to the most carefully planned suture line, and be a source of subsequent trouble.

Time does not permit me to give illustrative cases of the various misadventures that may follow operations named in this paper, but I can substantiate every one of them from patients that have come under my own care.



## ETHYL CHLORIDE AS A GENERAL ANESTHETIC IN MINOR SURGERY.

BY E. M. BLACKWELL, M.D.

For many years medical men have been striving for an ideal anesthetic. Since Horace Wells first used nitrous oxide and ether as surgical anesthetics in the forties, thereby bestowing one of the greatest boons upon mankind, numerous other anesthetics have been discovered and improved upon in their manufacture and methods of administration. Nearly every new anesthetic has been hailed as the ideal; but they have all failed to measure up to the mark and the ideal anesthetic is still in the dim future.

The ideal anesthetic must be one that is absolutely free from danger to the patient, either immediate or remote. It should

be pleasant, agreeable and easy to administer and not attended with or followed by nausea, vomiting, depression and other disagreeable and distressing symptoms. Until the ideal is attained, it behooves medical men to take what they have at hand, study them carefully, and by a process of selection and elimination, choose those which are best suited to the varied classes of cases that they have to treat. Each case should be studied carefully, and the anesthetic selected which is best suited to that case.

In presenting these notes, it is not the intention to go into any technical discussion or dissertation; the object is merely to present a few plain facts, capable of practical application, which may be of some practical value to medical men in their daily work.

Ethyl chloride is a light, colorless volatile liquid, with an ethereal odor, made by the action of hydrochloric acid upon ethylic alcohol. Its chief use, at present is for local anesthesia, which is produced by spraying the part, thereby freezing the surface. It is also an excellent general anesthetic for minor operations, which do not require more than five or ten minutes for completion, and if its virtues were more generally known, it would be more generally used. It is issued by the Medical Department of the United States Navy in tubes containing sixty cubic centimeters, which have nozzles for spraying. The chief objection to it is its high price and the fact that it requires a special inhaler in order to get satisfactory results.

The class of patients to which it is adapted as a safe general anesthetic has a wide range. In about 5,000 cases recorded by Lotheisen and Seitz, there were two deaths; but these were found to be due to organic disease of the coronary arteries. Fatalities from ethyl chloride have almost invariably been traced to organic disease of the heart, generally of the coronary arteries, or the patients were very old, weak, and debilitated, and not proper subjects for any general anesthetic. These fatalities also generally occurred when ethyl chloride was in the experimental stage and its action was not thoroughly understood and when proper inhalers were not used.

It has been used extensively in the hospitals of London and Great Britain generally with very few deaths, and these invariably found to be due to causes stated above. In patients of this class, any general anesthetic is dangerous; but ethyl chloride is

less so than any other, except possibly nitrous oxide. It has no bad effects apparently upon patients suffering with lung and kidney affections. In the military services where there are strong, robust and healthy subjects to deal with, it is almost an ideal anesthetic for short operations.

For anesthesia with ethyl chloride, the patient needs less preparation probably than for any other anesthetic. It is best to have the patient's bowels freely moved and the stomach empty; but this is not necessary as nausea and vomiting are very infrequent. If vomiting should occur, however, there is always the danger of food getting into the larynx and trachea and causing suffocation by obstruction to the respiration. Patients frequently come to one's office, and without any previous preparation, are given ethyl chloride, minor operations are performed and, in a few minutes, they go on their way rejoicing. If a patient is to be operated on in the forenoon, it is best to give a laxative the night before and allow no breakfast before the operation. If he is to be operated on in the afternoon, it is best to give a purgative in the morning, a light breakfast and no midday meal.

For the proper administration of ethyl chloride, which is a very volatile liquid and evaporates very quickly, it is necessary to have a special form of inhaler in order that it may reach the patient in sufficient concentration. Failures in its administration are due almost entirely to the fact that a proper apparatus is not used and the anesthetic does not reach the patient in sufficient concentration or quantity, or too much is given and serious or fatal results follow. The only safe and certain way is to have the proper apparatus, with which you are certain of the amount given and that the patient gets it all. An improvised apparatus may be used; but you can't be certain of it. The best apparatus is a modification of those used by dentists for the administration of nitrous oxide.

It consists of a metal or hard rubber mask with an inflated rubber guard around the rims, connected to a cross tube. To one end of this cross tube is attached a collapsable rubber bag of about four liters' capacity. At the other end projects a tube about half the size, which runs the whole length of the cross tube. This small tube is guarded by a stop-cock and has a soft rubber tube attached to it, which in turn has a graduated tube attached to it which contains the anesthetic.

The usual precautions should be taken of loosening the clothes around the patient's neck and chest, examining his heart, and seeing that there are no foreign bodies in his mouth. The graduated tube is filled with ethyl chloride and attached to the rubber tube with the stop-cock closed. The mask is then put over the patient's mouth and nose and pressed down firmly to exclude the external air, and he is instructed to breath deep and full. The stop-cock is now opened and the anesthetic poured gradually into the bag.

The usual amount required for anesthesia is from five to ten cubic centimeters; but as much as fifteen cubic centimeters may be given to strong, robust patients. If only five cubic centimeters are given, a few drops should be given at first to accustom the patient to it, and in ten or fifteen seconds the rest should be poured in at once. If ten cubic centimeters are given, it should be given gradually or five cubic centimeters poured in first, and the rest in from two to three minutes.

The time required to produce complete anesthesia is from fifteen to forty-five seconds, the average being about thirty seconds.

The duration of anesthesia is from three to ten minutes, depending on the amount given and the idiosyncrasies of the patient. With five cubic centimeters anesthesia lasts from three to five minutes, with ten cubic centimeters it lasts from five to ten minutes. Should the patient show signs of recovery before the operation is completed, more ethyl chloride can be given and the anesthesia prolonged. It can be used preliminary to chloroform and ether anesthesia, and lessens the time required to produce complete insensibility a great deal.

Patients usually take it very well. Its action is quick and there is little or no struggling or resistance, and very rarely is there any nausea or vomiting.

The heart action is somewhat increased in strength and frequency while the anesthetic is being administered, depending on whether there is much struggling and resistance or not. If the patient takes it quietly, which is usually the case, the heart action is increased from ten to twenty beats per minute; but if there is struggling or resistance it may be increased as much as fifty beats per minute due, no doubt, chiefly to the physical exertion. After full anesthesia is produced, the heart action becomes normal, full, strong and regular. Some authorities say

it depresses the heart; but I have never seen depression follow its use. Cyanosis sometimes results when a large amount has been given and there has been violent struggling; but it is very fleeting in character.

Respiration is often rapid and sometimes irregular in the beginning of anesthesia; but it soon becomes regular and while often a little rapid, it is full and deep. Sometimes there is stertor, especially after a large amount has been given.

Usually there are no nervous symptoms worth noting; but in patients of very nervous temperaments or in alcoholics, the struggles, cries, facial expression and cyanosis sometimes appear very alarming. As with other anesthetics, alcoholics take it worse than other patients do. Occasionally, patients will remain conscious of what is going on but will feel no pain. Sometimes, after the patient has recovered consciousness, the operation can be continued without causing any pain.

There is very little nausea or vomiting, much less than with ether, and less than with chloroform. In about seventy-five cases in which ethyl chloride was used in the San Juan Naval Hospital in 1906, there were two cases attended with some nausea, but no vomiting, and only one case with cyanosis. If the stomach is empty the danger of nausea is almost nil.

The pupillary and corneal reflexes are not lost, except in children, and there is little muscular relaxation, so it is not suited for cases where complete muscular relaxation is necessary.

The patient recovers very quickly from the anesthetic and there are no disagreeable after effects. In none of the seventy-five cases at the San Juan Naval Hospital were there any bad after effects. They were all able, unassisted, to get off the operating table and return to their beds in the wards, or to go to the recreation room and have a smoke. Many civilian patients from the city came to the hospital, had ethyl chloride administered, slight operations performed and in a few minutes returned to their homes or places of business. In none of these cases were there any bad effects upon the air passages, heart, or kidneys following its use.

Ethyl chloride, as has been stated heretofore, is specially adapted to minor surgery and has a wide range therein. It is safe to assert that a bubo, a bone felon, a carbuncle, or any abscess of any consequence never was treated properly without

great pain to the patient under local anesthesia. They can be opened without much pain sometimes; but they cannot be curetted and cleaned out thoroughly as they should be without great pain to the patient; and probably interference with the operator, except under general anesthesia. They will get well, of course, after a simple incision, as they will also if left to rupture; but not nearly so soon as when all the morbid and diseased tissue is curetted away and a healthy wound is left to granulate.

About seventy-five minor operations were done under its use at the San Juan Naval Hospital and in every instance it was very satisfactory. Bubos, bone felons, carbuncles, and ischio-rectal, axillary, aural and other kinds of abscesses were opened and curetted under it. Circumcisions were done, ingrowing toe nails excised, teeth extracted, sinuses, old wounds, ulcers and chancroids curetted and cauterized under its use and papillomata and chancroids excised.

In addition to the above operations, it is well adapted to minor amputations, cutting urethral strictures, applying the actual cautery, certain cases of hydrocele and varicocele, incisions in cellulitis, dislocations of certain joints, cutting sinuses and fistulæ in ano, excising small subcutaneous cysts and other tumors, certain tenotomies and other operations.

On one occasion in the San Juan Naval Hospital, it was given preliminary to ether for an operation for hemorrhoids, and in three minutes from the time it was commenced, anesthesia was complete and the operation was commenced.

It is peculiarly adapted to use in the military services. With the strong, robust men of which the services are composed, its dangers are practically nil, and in any case it is one of the safest of anesthetics. It does not require any expert anesthetist to administer it. This makes it very valuable where medical men are on detached duty and have not skilled assistants with them. It is not bulky and is easy to carry and will keep indefinitely. With its use, minor operations can be done properly without pain, the patient recovers sooner, can report for duty sooner and thereby the number of sick days of a command decreased considerably. In my estimate it is the best anesthetic we have for short operations for the following reasons:

It is one of the safest anesthetics we have.

The patient requires little or no preparations for it.



It does not require a skilled anesthetist.

It acts rapidly.

The patient recovers from its effects quickly.

There are no bad effects upon the patient during or after anesthesia.

It has a wide range in minor surgery, and, finally.

It is peculiarly adapted to use in the military services.



## SOME FOREIGN CLINICS.

BY RALPH WORRALL, M.D.

*(Continued from p. 346.)*

Edinburgh.—Although all the surgeons were very kind, there was apparently very little work going on. Mr. Scot Skirving kindly asked me to see him do two cases of inguinal hernia in an infant and a boy. The sac was transfixed with a sharp needle carrying iodized catgut and tied. It was then anchored by the ligatures being passed through the muscular and aponeurotic structures.

Liverpool—Hospital for Women, Drs. Briggs, Gemmel and Wallace are the surgeons. They all use the same handled right-angled needle, sharp pointed, with the eye near the point. The eye is threaded after the needle has been passed. It is used for everything, even continuous suturing. All pedicles are secured by continuous suturing with this needle.

Dr. Gemmel did a complete rupture of the perineum by flap-splitting and then bringing the raw surfaces into apposition with three tiers of continuous catgut sutures. A lacerated cervix in the same patient was not operated upon.

Professor Briggs showed me over his splendid museum of gynecology and obstetrics in Liverpool University. There are specimens of almost every pathological condition, classified and arranged on narrow shelves, with avenues between, down the center of the long room. On the walls are paintings on folding frames all done by the same artist from specimens and preparations collected by Professor Briggs during the past twenty-three years. Students can here study with great facility, say, the changes and degenerations to which uterine myomata are liable, or the varieties and complications of ectopic gestation, or any

other subject in gynecology, so that learning is here really made easy. In obstetrics the students can come whenever they feel disposed and practice the various procedures with real fetuses (preserved by injection with formaline and glycerine) and perfect models of the female pelvis. Twice weekly the tutor demonstrates the specimens and operations.

Professor Briggs did abdominal section for a large thinned-wall ovarian cyst which had been tapped outside four months previously. He makes a small incision, incises the cyst and ignores the escape of cyst contents into the peritoneal cavity. He used a small glass drainage tube in the lower angle of the wound, but not long enough to reach to the bottom of the pelvis. The parietal wound is brought together in layers by continuous catgut suturing. Retractors are never used by Professor Briggs. Catgut is boiled in xylol and preserved in alcohol.

Dr. Gemmel did subtotal hysterectomy for myoma, cupping the cervix and uniting the cut surfaces with continuous catgut. The vessels were secured by lacing with continuous catgut and the sharp needle; one vessel wounded in doing this. No retractors used. Parietal wound closed in layers with continuous catgut.

Second Case.—Curettage for incomplete abortion. Uterine cavity wiped out, not flushed.

Third Case.—Ventro-suspension by Wallace's method of uniting the peritoneum of bladder to anterior parietes so as to form a vertical septum in the utero-vesical space.

Dr. Wallace: Abdominal section by Lenander's incision for intrapelvic abscess below the appendages, which were normal. Appendix not examined, as abscess more on left than right. No history of bowel ulceration. Drainage with a rubber tube from Douglas' pouch to beyond vulva, and a glass drainage tube with a wick through the left rectus for suprapubic drainage. This tube did not quite reach to bottom of pelvis. The wound was closed in layers with continuous catgut to check the oozing which follows Lenander's incision from the separation between rectus and aponeurosis; a sandbag weighing eight pounds is placed over the dressings.

Second Case.—Hematosalpinx due to ectopic gestation. A subcuticular silver wire suture was used for the skin union.

Third Case.—Pflannelstein's curved transverse incision for abdominal section for retro-version with fixation. Ventro-

fixation by Dr. Wallace's method already referred to was done. There is a dead space above peritoneum in the lower angle of the wound after this operation, which is filled with saline solution. A pessary is inserted.

Dr. Wallace also did vaginal hysterectomy in a patient age sixty-seven, for cancer of the cervix, using Schuchardt's lateral incision. Only three months' history, but the disease was very extensive, involving the bladder, a portion of which was resected, and more would have been but for the danger to the ureter. The uterus was delivered in anteversion, and the broad ligaments ligated from above down with a continuous catgut suture. The peritoneum was united to vaginal mucosa, but no attempt was made to close or diminish the large opening in the vaginal vault. The intestines were prevented from prolapsing by a gauze plug.

Royal Infirmary, Liverpool.—Dr. Grimsdale did abdominal section for mobile retroversion of the uterus by drawing a loop of each round ligament through all the structures of the abdominal wall, except skin on each side of the median incision, and suturing the loops to each other and to the aponeurosis. The parietal wound was closed by through-and-through silk-worm suture, passed with a straight Hagedorn's needle from within out; a continuous silk suture united the aponeurosis, and a subcuticular the skin. Silk is used for ligatures. Dr. Grimsdale stands on right of patient in Trendelenburg's position.

Dr. Grimsdale also did subtotal hysterectomy for myoma in a patient age forty-five, removing both appendages. The cervix was cut straight across and not sutured. A large ovarian cyst was removed in another patient. In another a parametric abscess had made a communication between bladder and rectum. The openings in these viscera were sutured up, and gauze drainage made through the lower angle of the parietal wound as well as p. v.

Dr. Thelwall Thomas removed a mass of sarcomatous glands from the axilla of a woman whose scapula he had partially removed two years previously for periosteal sarcoma. No sign of recurrence at site of original growth; a small glass drainage tube was used; silk ligatures; Hagedorn's needles held in fingers. He also did inguinal colotomy for inoperable cancer of the rectum. The loop of gut was brought out and inserted under the skin towards the middle line, where it was brought

through so as to form a valve opening. A perfect spur was formed by suturing together the sides of the loop.

Dr. Robert Jones operated in two cases of hallux vagus by excising a piece of the head of the bone, preserving the sesamoids and bringing them over like a curtain, with buried catgut. The dressing was iodoform in spirit spread on gauze and bandage to keep the toe inverted. The wound is not dressed again for ten days, when a suitable splint is applied. In rheumatoid arthritis, Dr. Jones believes it is sometimes wise to excise the joints.

In talipes, etc., before correcting the bony deformity by excision, the endeavor is made by manipulation, etc., to bring the muscles as near to normal as possible. Dr. Jones uses catgut for ligatures. His aseptic technique is very thorough. At his private clinic there are about a dozen waiting-rooms for the accommodation during the day of between thirty and forty patients, who are all classified in the different rooms by the secretary and nurse. Skiagrams are taken and recorded in almost every case. Pitch plaster spread on brown paper is largely used for correcting deformities. Dr. W. Mayo, of Rochester, Minn., told me Dr. Jones' clinic was the most interesting thing he had seen in his travels.

On my return to London I saw Mr. Handley at the Middlesex remove the right ovary and tube and omentum for cancer. Probably the tube was the primary focus. He also did appendicostomy for constipation and left-sided pain. The cecum is pulled by the appendix right up to the parietes; in a few days the tube is cut off and injections given through the opening into the cecum. Mr. Handley has done some important original work on the spread of cancer of the mamma along the deep fascia and lymphatics, and has pointed out its special tendency to extend down towards the umbilicus along the anterior sheath of the ructus, and thus infect the stomach. In the skin the spread is equally in all directions and is not specially marked. It is reached by an efflorescence from the deeper parts. I saw him amputate a breast in accordance with the above teaching. The incision was circular, with a diameter of four inches; it was then extended into axilla and downwards over the rectus, four inches of the anterior sheath of which was excised.

In Dublin, where there are thirty-six hospitals for a population of under half a million, I visited the Rotunda, of which Dr.

Tweedy is now master. There are between thirty and forty students, male and female, in the class, most of whom are qualified, hailing from almost all parts of the world. The teaching, especially the obstetric, is very good and practical. Private practice is always borne in mind, and nothing is used and no technique taught which would be impossible in a private house. Pupils pay \$75.00 for a three months course. After this they sometimes remain as clinical assistants, when they are allowed to do small operations under the supervision of the master. The standard of morbidity in puerperal cases is "that the temperature shall be above ninety-nine twice in one day during the eight days which the patient remains in the hospital after delivery." The curette is not used in septic conditions. Dr. Tweedy is content with wiping over the endometrium with formaline solution. In gynecology curettage is generally performed without anesthesia, a tangle tent having been introduced the night before; slight further dilation is made at the time of curettage with Hegar's dilators. Endocervicitis is treated by pyroligneous acid on a Bandl's probe. Pessaries are largely used in displacements. In making bimanual examinations the cervix is drawn down with a volsellum to allow of palpation of the pedicle of a cyst, etc. The importance of visual examination of the vulva is taught. A Guyot examining table is used, and the patient is examined in the dorsal position. Anesthesia is freely used for examination purposes. All waterproof sheets, etc., after being scrubbed with soap and water, are placed in a cistern containing one in two thousand biniodide solution, which is allowed after twelve hours to run out of a tap at the bottom of the cistern over the terazzo floors of the wards. The floor of the theatre is kept wet with solution, so that galoshes are necessary. The aseptic technique is very good. Dr. Tweedy removed a large epithelioma of the vulva in such a way as to make primary union of the cut surfaces possible. He also did a difficult ovariectomy, making Pfannenstiel's transverse incision. He uses silk for ligatures, sharp needles and large pedicle needle. The uterus was amputated, as the cyst was bilateral and the removal difficult. Flushing was resorted to, as some of the viscid contents of the cyst escaped into the peritoneal cavity. A gauze drain was used, brought out in lower angle of wound.

At the Adelaide Hospital, Dublin, Sir Wm. Sungly, who is a

frequent visitor to foreign climes and whose wide knowledge is reflected in his work, did two total hysterectomies for myoma, by Doyen's method, occupying about forty minutes for each. Catgut ligatures passed by sharp needles held in Martin's holder. All the structures in the vault are brought together by the purse-string suture, reënforced by two or three transverse. No drain. Parietal wound closed in layers with continuous catgut, subcuticular of silkworm gut for the skin. Sir Wm. Sungly also did a vaginal fixation for retroversion with silk sutures.

At Sir Patrick Dunn's Hospital I saw Edward Taylor do abdominal section for tubercular peritonitis. No attempt made to remove the very adherent appendix and appendages. Flushing was practiced. Linen thread for ligatures; catgut for layering the parietal wound; subcuticular of silkworm gut for the skin.

At St. Vincent's Hospital Alfred Smith is gynecologist. He does subtotal hysterectomy, cuts cervix straight across without suturing, closes parietal wound with one continuous suture of silk; uses pessaries largely for retro-displacements during child-bearing period, hysteropexy after; tries to avoid operating in pus cases for a year after initial attack of pelvic peritonitis, but if necessary in the meantime, evacuates the pus *p. v.*

At the same hospital Mr. McArdle operated on an urgent case sent in, while I was in the hospital, as "acute intestinal obstruction." After not more than one minute's examination and questioning he diagnosed malignant annular stricture of the sigmoid; the patient was operated upon straightaway and the diagnosis found to be correct. A loop of ilium was firmly adherent to the growth and extremely congested. Dr. McA. thought it too damaged to leave, and therefore resected about nine inches, using Murphy's button, in the use of which he is an enthusiast. The sigmoid was also excised and the left appendage adherent to it; Murphy's button again used, but unfortunately a fresh supply of those ordered had not come to hand, and a smaller button had to be used for the sigmoid than that for the ilium. Dr. McA., however, said this had once before occurred, and he had eventually saved the patient by cutting down on the lower anastomosis and removing the larger upper button which had wedged there. The distended intestines were not relieved before closing the abdomen.

At Mr. Moynihan's invitation I visited Leeds again and met Dr. Elsasser, Kocher's chief assistant. In the private hospital I saw a cholecystectomy for an edematous thickened gall-bladder full of pea-sized stones, then an old inguinal hernia in which the sac was ligatured after being drawn down. It was allowed to fly back after section.

At the Infirmary I saw a gastro-enterostomy; in the third row of sutures C. Mayo's stitch was used.

The next was an occlusion of the common duct, which the operation showed to be due to cancer of the gall-bladder and liver with many enlarged glands; nothing was done.

Third case was a painful lump in the abdomen; exploration disclosed a purulent collection in the abdominal wall; origin uncertain.

Chronic traumatic arthritis of ten months' standing in a middle-aged man. Joint aspirated and about oz. ii. of thick synovial fluid withdrawn; then oz. i. of a two per cent. solution of formaline in glycerine injected; limb put up on splint.

Appendicectomies. In pus cases Mr. M. adheres to no particular incision. In internal cases he prefers Battle's at outer margin of rectus.

Gastro-enterostomy for duodenal ulcer. Mr. M. used his twin clamp forceps in making the anastomosis.



## THE TREATMENT OF DYSMENORRHEA BY FORCIBLE DILATATION OF THE CERVICAL CANAL.\*

BY HENRY D. BEYEA, M.D.

The form of dysmenorrhea, of severely painful menstruation, to which I wish to call attention and recommend a special surgical treatment, is that occurring in young girls and young married women, and characterized by violent intermittent or constant sharp shooting pain situated in the center of the lower abdomen and extending down the thighs. In the later years of the disease or after marriage the pain increases in severity and duration and extends to the whole pelvis and back. The pain has its onset several hours or just before the appearance of the hemorrhagic flow or during the first one or two days of

\* Medical Society of the State of Pennsylvania.

the flow. The patient is incapacitated for any occupation or duty and is as a rule confined to bed. The cause of such dysmenorrhea is a pathological ante flexion of the uterus of one of the anatomical varieties described in text-books on Gynecology, a malformation of the shape of the organ, and, in the sense of modern investigation, also due to a failure of development of the organ as a whole, of its muscularis and often of the entire genital tract. Physical examination determines the presence of a small organ, often infantile in shape, ante flexed to a more or less extreme degree, frequently with imperfect invagination of the anterior lip of the cervix into the vagina, and rarely, as an indication of imperfect development, having the congenital split of the cervix as described by Penrose.

The pain is in part due to obstruction of the cervical canal at the point of flexion, at the internal os, and in part to an inefficiency of the uterine muscularis, because of its imperfect development, to carry out its function in the act of menstruation. One or the other of these factors predominates in the individual case.

This form of dysmenorrhea, of single women or sterile married women, having the definitely characteristic symptoms and physical changes described, represents at least ninety-eight per cent. of the cases which have come under our charge during the last fourteen years. We would have it understood that in this consideration of the subject we do not refer to the rare cases of ovarian dysmenorrhea accompanied by atrophic changes in the ovaries, to dysmenorrhea dependent upon intra-abdominal pelvic inflammation, or to the painful menstruation incident to profound neurasthenia.

The diagnosis of what I shall here call, for the sake of convenience, the dysmenorrhea of pathological ante flexion, is determined by the characteristic position of the pain, the time of occurrence of pain and the physical examination.

The treatment of the dysmenorrhea of pathological ante flexion by the use of medicinal remedies, it has long been determined, is without value.

The surgical treatment, whether by slow dilatation, forcible dilatation or application of the operation of division of the posterior lip of the cervix, devised by Dudley, while giving relief in some instances, more often fails or the symptoms recur within a period of two or three months.



If the cause of this common form of dysmenorrhea be a pathological ante flexion of the uterus with obstruction of the cervical canal and a condition of incomplete development of the uterine body, active through an inefficiency of its muscularis, then the indications for treatment should be directed to the correction of the cause; namely, the relief of the obstruction and development of the uterine muscularis. It is further to be recognized that the more completely these indications are met, the more satisfactory and permanent will be the result.

For a number of years it was our custom to practice thorough and prolonged forcible dilatation of the cervical canal as described by Goodell. In the carrying out of this treatment it was noticed that where the best results were gained the uterus enlarged, the menstrual flow became more profuse and there were positive indications of a further development of the external genitals and breasts. The state of well-being and general health of the woman were improved.

Acting upon this suggestion and learning of the markedly beneficial results in this direction, published by Carstens after the office introduction of the Chambers stem pessary, we determined upon and began about three years ago to carry out the following surgical treatment.

The patient is prepared as for the practice of any surgical operation upon the vaginal tract, the vagina and external genitalia being thoroughly cleansed and anti-septicized. The woman is etherized and placed in the dorso-sacral position. The cervix is exposed through the Sims speculum and the anterior lip seized with a double tenaculum. The small Goodell dilator is introduced into the cervical canal and then the larger instrument. The operator should be sure that the dilating blades pass beyond the internal os and that they be introduced up to the flange of this part of the instrument. Dilatation is then begun and slowly carried to the point where the register at the handles of the instrument shows that the canal has been dilated to one and a half inches. The dilatation should be very slowly and carefully carried out, requiring at least fifteen minutes, so as to simply stretch and in no way tear or injure the mucosa or muscle. The instrument is then removed, again introduced, and for the second time the dilatation is carried to the same point. The object of the second introduction of the instrument is to grasp and stretch the muscle in another position. The

instrument is then allowed to remain in position for fully fifteen minutes, the time being taken by the etherizer.

If the uterus is very small the cervical canal should not be dilated to a greater extent than one and a fourth inches.

We believe the more painstaking and thoroughness with which this procedure of dilatation is performed and the greater amount of time that is consumed in the step, the more permanent will be the patency of the canal. With Goodell, we agree that the benefit to be gained is dependent upon these factors and the experience of the operator.

The instrument is then withdrawn, the vagina and cervical canal washed out with a 1-2000 bichlorid of mercury solution. A hard rubber Wylie drain is then introduced into the uterine cavity, the size of the drain being such as to require a little force to have the bulbous portion pass the internal os. Before introduction, the instrument is sterilized by boiling and while warm is bent forward into the shape of the canal of the normally anteflexed uterus, the drainage groove being on the right lateral surface. A light gauze pack is then placed in the vagina, completing the operation. The patient is required to remain in bed in the recumbent position for two weeks. The Wylie drain is left in position for three or six months and where necessary for a year. During the convalescence after operation and the time the instrument is worn, a daily boric acid vaginal douche is administered.

The Wylie drain is an instrument having somewhat the shape and form of the old stem pessary, but differing in that the uterine end is somewhat bulbous in shape, enlarged for a distance of a half inch, and along its lateral surface there is a deep groove. The bulbous portion has the purpose of forming a good-sized body upon or against which the uterus contracts. Likewise it is of advantage in preventing the expulsion of the instrument. The lateral groove provides for drainage, permitting the easy discharge of the menstrual blood.

The object of the wearing of the Wylie drain is the development of the uterine muscularis and thus the entire uterus. The principle of action being the same as where there exists in the uterine cavity a polypus or foreign body, as has been observed by every practitioner of medicine, the uterine muscle contracts upon this body in its attempts to expel it, and necessarily the muscle is exercised and developed, the body of the uterus is

enlarged, and to a considerable extent, for the same reason, the cervical canal is increased in caliber.

The development of the uterus thus effected by the use of the Wylie drain remains to a greater or less extent after the instrument is withdrawn, removing the cause and thus curing the dysmenorrhea. It is probable too that the uterus once stimulated to development continues in its development to perhaps normal.

The length of time which the instrument is to be worn is determined by the degree of its effect, the amount of development being estimated by the relief of pain at menstruation. If after a few months the pain returns the instrument is again introduced under antiseptic precautions and worn for a greater period.

Since the fall of 1904 we have carried out this treatment in forty-five women, twenty-eight of whom were single and seventeen married. We have recently sent communications to these patients asking for a statement regarding the influence of the operation and have replies from forty-one, twenty-six of the single women and fifteen of the married women. Twenty-two of the single women state that they have been entirely relieved of the menstrual pain, two are benefited but still have considerable pain, and in two the dysmenorrhea remains unchanged. Twelve of the married women write that the relief has been complete and three have received no benefit. In three of the cases where no benefit followed, the pain was absent for three, four and six months and then returned with the old severity. Two have amenorrhea as before treatment. In practically all of those relieved, the menstrual period has become more regular and much more profuse. Therefore, eighty-five per cent. of the single women and eighty per cent. of the married women have evidently been cured of their dysmenorrhea through this treatment.

Of the fifteen married women, five have since operation become pregnant, one miscarrying at the fourth, another at the fifth month and the others going to term. The previous history of the married women becoming pregnant determines that two were married three years; one four; and the other two five years before operation, and the marriage would thus be considered a sterile one. Since one third of the married women

became pregnant after operation it is a fair conclusion that the treatment is a valuable cure for sterility.

That eighty per cent. of all of these women operated upon and heard from have been completely relieved, proved, at least in our experience, that the treatment is far more beneficial than any yet devised.

From a study of these cases and after an experience of three years it is our opinion that the result of the treatment would have in many instances been improved had we allowed the instrument to remain in position a greater length of time, it often being removed at the end of two weeks; this particularly in those instances where there was a marked degree of underdevelopment and in those where a failure followed.

In ten of the cases cured the operation of forcible dilatation had previously been performed by myself or other operators without benefit.

The contraindication to the operation and Wylie drain is the presence of intra-abdominal pelvic inflammation of any character, and the surgeon should be doubly assured that no such disease exists before proceeding to the treatment.

I would again emphasize that the most rigid aseptic and anti-septic technic is to be practiced both in the carrying out of the forcible dilatation and introduction of the Wylie drain. The instrument should never be introduced as an office treatment, either primarily or secondarily.

The introduction into the uterine cavity and wearing of a rubber instrument, I know, is a procedure subjected to criticism, for every gynecologist of experience has been taught or knows from experience that the old stem pessary thus introduced often became infected, resulting in pelvic inflammation and not infrequently in general peritonitis and death. For this reason our early cases were kept under observation with much concern. Not the slightest indication of such complication and result has followed in any of the forty-five cases operated upon, and we are therefore able to assert that the treatment is absolutely safe if carried out under the surgical technic described. No man who is not trained in surgery or who can not provide the proper hospital surroundings should attempt the treatment.

## Current Comment.

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C. E. Geiser, M.D. :

The actual administration of an **anesthetic in obstetrical cases** differs very slightly from the method employed in any other case. Women are as a rule more easily anesthetized than men. Age has but little to do with the administration—the important point being the consideration of the general physical condition at different periods of life. The extremes of life offer no contra-indications to the administration of anesthetics, though different anesthetics and their manner of administration must be considered. Chloroform has been the favorite anesthetic for labor cases ever since its discovery. It is the most satisfactory drug for short obstetrical anesthetics. A protest however should be filed against its general use. Chloroform holds first place in allaying the pains of labor, but when obstetric surgery becomes necessary ether may sometimes have to be used. In general terms, chloroform is a greater circulatory depressant than ether, therefore it should not be used in shock, anemia or cardiac lesions. When prolonged, chloroform produces fatty degeneration of the heart, kidneys and liver. Try to quiet and console the patient, and relieve apprehension as much as possible. Fright acts as a decided cardiac depressant, deaths having occurred before the anesthetic was begun. In the administration of chloroform, the vapor must be well diluted with air—2 per cent. vapor being sufficient to cause prolonged anesthesia. It should be carefully given drop by drop on an Esmarck mask. In ten or twelve minutes the patient is ready for operation, the face is pale, the respiration tranquil, the pulse usually slow, the pupils moderately contracted, yet mobile, the muscular system relaxed, the conjunctiva insensitive and the eyeballs fixed.

Ether is not well taken by asthmatics, or where there are constrictions or growths in the air passages—in fact, where there is any abnormal condition in the respiratory tract or a lesion in the kidney. The selection of an inhaler for the administration of ether rests with the anesthetist. I prefer the open method, the simple mask with the one layer of hospital lint, over the wire screen. In this way ether can be given drop

by drop, the pupils and color of the face being seen at the same time. The drenching method is not to be recommended. Commence with a few drops of ether allowing a free mixture of air, until the respiratory tract becomes accustomed to the vapor. There is a horrible sense of suffocation when the drenching method is used, causing great resistance on the part of the patient.

During the first stage, the beginning of ether anesthesia, the patient should be asked to breathe naturally, the respirations gradually becoming deeper, more rapid and noisier, the pulse is fuller and quicker, the pupils gradually dilating—yet mobile. The second stage, is the stage of excitement, the patient seemingly intoxicated—singing, talking or shouting. The face is flushed, the skin is moist, the conjunctiva injected, the pulse full and bounding, the pupil fully dilated—yet mobile. Finally the breathing grows more regular, becoming deep and noisy, muscular relaxation and unconsciousness occur, the cornea becomes insensitive, the pupil gradually coming down to the so-called “pin point.” This is the third or operative stage, which in my opinion is too profound a state of anesthesia. Allow the patient a little more air, causing the pupil to enlarge a trifle, the breathing to be not so deep and noisy—avoiding however the signs of approaching sensibility, namely, lid reflex, vomiting, and rigidity. This is the ideal stage, the so-called “on the edge,” with a medium pupil which reacts sluggishly to light.

In the second stage of labor, chloroform is preferable if an anesthetic is needed. Give a few drops at the onset of the pain, continuing until the acme is reached, when the mask should be removed. This is repeated at each pain if the pains become unbearable. This promotes labor, relaxing the parts and allowing the patient to help herself when the edge of the pain is removed. When the fetal head bulges the perineum and is about to slip over it, the anesthesia is made complete. As soon as the head is born, the anesthetic is stopped. For version, high or low forceps, repair of perineum, chloroform or ether may be used, depending upon the condition of the patient. Curettement following abortion, Cæsarean section, placenta previa, craniotomy, and symphyseotomy, especially when prolonged anesthesia is desired, are best done under ether, as the patient is usually worn out and oftentimes anemic. Eclampsia is best antidoted by the use of chloroform.

Of late a number of new anesthetics have come to light, amongst them the scopolamine-morphine combination. After careful experimentation it was found that only one-third of the patients were susceptible to the drugs, that robust, nervous or hysterical women were little affected, oftentimes made worse, and that the aged and those suffering from chronic rebility were the only favorable patients. Abbott's hyosin-morphin-cactin combination has given better results although it has its objectionable features. If the patient has a long and tedious labor and has become exhausted a tablet either hypodermatically or by mouth may be given. This will quiet the patient, allowing her to rest and recuperate. Should complete anesthesia be required, a few drops of chloroform or ether will be all that is necessary. The objectionable features of this anesthetic are that it delays labor, reduces the respiration to as low as six per minute, and at times causes asphyxia or even death of the child. The dose is half a surgical one and should not be given until labor has reached the second stage.

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F. J. T. Sawkins, M.D.:

At present I have under treatment an example in each sex of a **pelvic hydatid** which necessitated operative interference.

The female, a young multipara, aborted two years ago at seven months, when a tumor was detected in the lower part of the abdomen. She again became pregnant and aborted at the fifth month, the tumor being now very much larger. Her medical attendant tapped it on two occasions and drew off ten pints of greenish fluid.

When I saw her on October 15, the tumor occupied the lower abdomen, rising as high as the umbilicus, was evidently of fluid contents, and p.v. was found to be pushing the uterus upwards and to the right. Her general condition was, naturally after what she had gone through, one of extreme weakness. The diagnosis rested between ovarian and hydatid cyst. I opened her in the middle line and soon found that it was a huge hydatid cyst that had displaced upwards all the pelvic viscera except the rectum, and was practically extra-peritoneal. I therefore refrained from attempting to strip, opened the cyst midway between umbilicus and pubes, and made a counter incision in the right flank. The cyst contained a small bucketful of dark greenish fluid, with shreds of dead

hydatid cyst wall, and much yellowish putty-like detritus at the bottom of Douglas' pouch. Improvement was continuous, but as there seemed some difficulty in draining the lower part of the cyst, I later opened through the vaginal roof and left in a gas-pipe rubber tube. She has now gone home after making a practical uninterrupted recovery.

The second case, male, a drover, sixty-three years of age, consulted me because of inability to pass his urine. On examination I found a bladder almost to the umbilicus, which he had been unable to empty for three days, though urine was constantly running away. A catheter (No. 8) was easily passed, but a very much greater length of it disappeared before the urine began to flow than happens in the ordinary case of distended bladder from stricture. I remembered having had two similar experiences some fourteen years ago, in both cases the cause being a pelvic hydatid. I therefore, after drawing off about two pints of dark turbid urine, examined *p.r.* and found a large cystic tumor bulging into the rectum, and bimanually, easily felt above the pubes. There were also some smaller cysts in the liver. After a few days' rest in bed, with catheterization and treatment till his urine had improved, I sent him to hospital for operation.

Through a curved incision from the central point of the perineum round into the base of the left ischio-rectal fossa, I was easily able to separate urethra, prostate, and bladder from the anterior wall of the rectum. Then with a long sponge forceps, guarded by wrapping the blades in cotton wool, I firmly grasped and drew down the anterior wall of the rectum, and so brought the base of the cyst within safe working distance. A long forceps was plunged into the cyst, and the blades having been opened wide, it was then withdrawn. This was accompanied by a gush of fluid and daughter-cysts. A wide rubber tube, 8 inches long, was introduced and secured by a perineal stitch. The small perineal wound was plugged round the tube with gauze. There had been practically no bleeding and not one vessel needed tying.

The urine had for some days to be drawn off every six hours, and the bladder washed out daily. He had lost control of the rectum temporarily, but in a fortnight's time was able to control both urine and feces. The perineal tube had then to be replaced by a narrower one. The anterior wall of the rectum



broke down about six inches from the anus, where the cyst wall had thinned out the coats. This had naturally helped on the relief of symptoms, for he had passed quantities of daughter-cysts per anum on several occasions. He is now—sixteen days after operation—able to walk about, is rapidly regaining his normal health, and has full control of both bladder and rectum.

According to Thomas, in 200 cases of hydatid disease only 1 per cent. were pelvic, demanding operative measures.

Pelvic hydatids arise in two ways. Secondarily by transplantation of daughter-cysts from some other site, after rupture of a live mother-cyst. They are then often multiple, and rarely attain great size. They probably more often develop primarily nowadays, since the tapping of the hydatid cysts has very properly been discarded as an irrational and dangerous method of treatment. The embryo—there being as a rule only one—is arrested and develops in one of the pelvic organs, and occasionally attains considerable size.

Females are more frequently the subjects of pelvic hydatid than males, probably because there are more pelvic organs to be attacked, and possibly because of the greater blood supply to the essential organs at various periods. The operative treatment by the perineal route is much easier in women than in men, the vaginal roof being in apposition with the most dependent part of the cyst.

In the male the primary cysts arise—as I had the opportunity of demonstrating by dissecting of one of the cases I had previously seen—in the connective tissue between the muscular coat of the lower part of the bladder and the sheath of rectovesical fascia. “This fascia, besides enclosing the prostate and lower part of the bladder, forms a special sheath for the vesiculæ and vasa deferentia; hence the gradual enlargement of the cyst separates the fascia from the bladder, and thus detaches the vasa and vesiculæ, which henceforth may become incorporated in the wall of the cyst.” The growing tumor also partly pushes and partly drags the bladder upwards, and so gradually elongates and narrows the urethra that the time comes when the dislocated and hampered bladder can no longer void its contents. Hence the abnormal length of catheter which has to be passed before urine flows—a diagnostic sign of much value in these cases.

R. B. Hall, M.D.:

How is an early diagnosis of **cancer of the uterus** to be made? The clinical history of the patient is of vast importance, and should be taken in all of these cases and carefully recorded. No patient should be treated for weeks and months for a slight, almost trivial, vaginal discharge in the cancer period of life without the physician first having made a very careful physical examination of his patient. Not one symptom pertaining to the menstrual function, or unusual vaginal discharge, should be neglected. These patients, many of them—in fact, all of them—when you come to take their clinical history carefully, will tell you that they have had an unusual vaginal discharge for a period varying from one to five or six months before they noticed any bleeding between their menstrual periods; or, if they have passed the menopause, they had the discharge for months before they noticed the first drop of blood. In many patients this discharge is of an unusual character. It is not the usual vaginal discharge that the patient has complained of at times in her past life. It is more watery. It is more irritating to the vulva. It does not at this time have an offensive odor.

We do not get the offensive odor until the tissues begin to break down, which is about the time they commence to notice a little blood, four to six months after the first discharge spoken of. They complain, almost all of them during this early period, of an irritable bladder: that is, a desire to empty the bladder more frequently than normal. Many of these patients never consult their physician until many months after the disease is well marked. In these cases the patients themselves are at fault. Many of them are under the impression that their symptoms are all due to the approaching menopause.

I am surprised that so many women, even in the more intelligent class, believe that a little bleeding at irregular intervals at or about the menopause is of no clinical significance at all, and for this reason many of them do not consult their physician. They try to hide the fact from their friends that they have any unusual pelvic disease. Many of them do not realize that there is anything serious until they commence to complain of pain. This is usually from six to ten months or longer after the first well-marked symptoms of cancer were observed, if one would read aright the clinical history. In cancer of the cervix,

when the disease has advanced to the stage when the patient seeks relief on account of the pain, the disease is so far advanced that a radical operation is useless

We, as medical men, must disseminate knowledge to our patrons along these lines. Every woman should know that during the cancer period of her life she should have any unusual uterine symptoms investigated at once, and especially any unusual discharge or bleeding. There is a grave responsibility resting upon every practitioner of medicine in this particular, and it is only necessary to call his attention to this duty to have him discharge it thoroughly. We are the custodians of the public health, and it is in this department that a much-needed enlightenment could be given by the family physician. I do not believe that every family physician gives due weight and strength to the early clinical history of patients suffering from cancer of the uterus. If he did, he would make a careful vaginal examination when these patients first come to him. If he did this, he would have no more difficulty in making a diagnosis of cancer of the cervix than he does of an abortion. The great difficulty appears to be the neglect on the part of the family doctor to make an early investigation. How long this shall remain so is for you to answer. I have often heard these patients say, "I mentioned this discharge to my doctor weeks and months ago, and he said, 'Oh, that is nothing, women have these discharges at times.'"

The patient went away and did not trouble him again for several months; indeed, not until the pain became so severe that she sought relief on that account. He then made a vaginal examination for the first time and found well-advanced malignant disease. The patient is then referred to the specialist, but the disease is now so far advanced that an operation cannot give even temporary relief. The point I wish to make, if I can make a point, is to demonstrate the necessity for a thorough physical examination of these patients at once and to call attention to the duty we, as a profession, owe to them. In some of them the disease will be so far advanced that a radical operation for the extirpation of the uterus is out of the question when they first apply to the physician for advice, but only in a minority of them will this condition be found, and that will be in women past fifty years of age.

Taking all the operations that I have made for extirpation of

the uterus for cancer of the cervix, it is humiliating to say that for every patient that was seen early enough to justify a radical operation, nineteen were seen too late, or two hundred and sixty-six in all. In other words, the disease had advanced to tissues outside of the uterus before the patient was referred for operation. Now, gentlemen, this sad state of affairs should not exist in this enlightened age, and it will not when the professional conscience has been aroused upon this subject as it should be.



Harold South, M.D.:

I recall notes of a case of **depression of skull bones during difficult delivery** in the maternity ward of the Women's Hospital, whilst I was a house surgeon there:

A multipara, aged forty-three, fifth labor; previous labors had resulted in deaths of children inter-partum; admitted in labor, with head at pelvic brim; pelvis contracted antero-posteriorly; labor pains strong. After some hours, as there was no progress, forceps were applied, and with some difficulty a large male child was delivered. There was a depressed fracture of the right frontal bone, the whole bone having been dented in. Ossification was advanced, and at the lowest point of depression a spicule of bone had penetrated through the scalp. The non-ossified part at the fontanelle edge was tilted up. I tried to elevate the bone by drawing the scalp at the bottom of the depression up with a catch forceps, but this seemed to lock the broken bits still more firmly in their malposition. The child's heart was beating strongly, but there was no attempt at respiration. Stimulating had no effect. The cord was tied and artificial respiration given, and the larynx was intubated with a No. 6 catheter, and I "breathed for" the child for some minutes, but these measures were all useless. The heart was failing, and it was plain that the brain compression would quickly kill the child, and that it had to be relieved. The only surgical instrument in the ward that appeared of any use was a long, thin-bladed scissors. I took this apart, and entered the thinner blade through the scalp where the bone was tilted at the fontanelle edge, pushed it along the under surface of this fragment, and when the point of the scissors came to the center of the depression the whole area of depression was easily levered into position. The child at once

cried loudly. Though the fracture could be detected for a day or two, at the end of a week there was apparently no difference between right and left sides, and the small puncture at the fontanelle edge healed at once. The child was bandaged with its left side to a pillow, so that no pressure came to the injured part. A pad of sterilized gauze was placed over the puncture and the whole injured area. There was no need for after-treatment, and three months later no trace remained of fracture or puncture.

In this case there was no time for any set surgical operation, but the good result, both immediately and remotely, was so striking that I determined to use a similar method in any such case, even when time might allow a set operation. In country midwifery work one is sometimes miles from help, and saws and trephines do not form part of a midwifery outfit, though scissors do. The small puncture made by a scissors' blade is negligible and if care be taken to keep the blade point always close to the bone no harm can be done to brain, membranes or sinus.



E. R. Beard, M.D.:

There is no disease in the whole rôle of gynecological medicine which can prove more agonizing and more debilitating than a severe case of **chronic cystitis**. Acute cystitis may be cured by remedies early applied, or even cure itself, but this is not true of the chronic type. The longer the duration of the disease, particularly the more the structural integrity of the mucous lining of the bladder is affected, the more tedious will be the recovery under any form of treatment, and, indeed, in some cases nothing but an operation will succeed in affording relief.

When it comes to actual experience in the treatment of this common condition in women, the practical physician is taxed often to his utmost to devise the proper plan for the cure of each case. And when we take into consideration the fact that a severe form of this disease is apt to spread by continuity along the ureters and involve the kidneys, causing an inflammation of these important organs with its serious and often fatal results, we are more anxious to learn all we can of the treatment directed to such cases, and often the opinion of the specialist on the subject is sought with the hope that in some way he

may be able to suggest a means of relief to our suffering patient.

The theoretical advice of the text-book is inadequate and often misleading, and the results of experience in one case may be of no value in another. We are told that cystitis is always the result of infection, and however true this may be, nearly all cases are benefited by the use of bichloride of mercury.

Our success in the treatment of cystitis depends upon our finding out the particular cause and applying the proper medication, and any treatment which gives any hope of a large average of recoveries, or even improvements, is to be welcomed. In considering the treatment of this intractable disease it is well to divide it into constitutional and local and to remember that each of these will vary according to the cause and characteristic of the inflammation.

We must at the outset so regulate the character of the urine that it will cease to be an irritant to the bladder. The whole body should receive attention and the excretory functions should be stimulated and kept in an active condition. Saline laxatives should be given often to prevent constipation and straining, and any derangement of the nervous system which tends to produce an irritating urine should be investigated and treated. Pain varies in degree of intensity, from slight distress to the most intolerable anguish, and associated with pain is the desire to pass urine every few minutes, although the quantity passed is but a small amount and with the most intense effort. These two symptoms first brings the patient to our office and to relieve them is her most earnest plea.

When the internal administration of medicines fails we must resort to local treatment. I refer to the washing out of the bladder. This method of treatment is very important, and its proper and frequent use very necessary if we expect to handle these cases successfully. It is well to bear in mind that any fluid whose specific gravity is below that of urine will cause pain when injected into the bladder, hence plain water should never be used unless it holds some salt in solution.

The technic of washing the bladder in the female is simple, one point of especial importance being to avoid too rapid distention. A fountain syringe with a recurrent catheter may be used, yet I much prefer the ordinary soft-rubber male catheter,

to which is attached a small glass funnel; with such a simple device the flow can be readily controlled by raising or lowering the funnel above the patient's abdomen. It is readily cleansed and kept sterile. This operation should never be attempted under cover, not even the introduction of the catheter into the bladder, no matter how dextrous one may become in the use of this simple device. Bubbles of air should not be permitted to enter the bladder, and we must be careful that our solution is at a comfortable temperature, too cold an injection being as harmful as one too hot.

Our efforts to successfully perform this important office for our suffering patient at first may prove futile, but we can usually coax both the patient and her miserable bladder to a degree of tolerance. Some member of the family or a nurse should be taught to carry out this procedure, as it is often necessary to have these bladders washed out two or three times a day.

Having prepared ourselves and our patient for washing, what shall we use? Some text-books advise a solution of cocain, but this cannot be used with safety more than two or three times except at long intervals. Astringents and alteratives are most commonly used. When the urine is alkaline and has been retained for some time, carbolic acid is of use, two minims to the ounce, but in using it it should be freely incorporated with glycerin for the reason that it is apt to float in water as an upper layer, and thus coming in contact with the mucous surfaces cause a destruction of the tissues. Nearly all astringent injections should be followed by an injection of a normal saline solution. A favorite remedy, and one which has given me the best results in these chronic types, is the silver nitrate solution, commencing with a one-half per cent. solution and increasing it one-half per cent. each time until a three or four per cent. solution is reached, following it each time with a normal saline injection and insisting that the patient remain in the recumbent position for at least an hour afterward. This has served me well, and I find that under such treatment it is not necessary to wash out the bladder oftener than twice a week. While recovery may be slow, yet I am inclined to think that it is pretty sure to follow. This treatment has proven so efficient in my hands that I resort to it in preference to all others.

F. H. Maier, M.D.:

The results following operations of a major character for **acute infections of the pelvic organs** in the female have been quite unsatisfactory. Hysterectomy, ligation, and excision of thrombosed veins have been attended by entirely too great a mortality to justify their general adoption. Neither is this to be wondered at when we consider the effect the shock of such procedures would have in decreasing tissue resistance.

In formulating a plan of treatment two purposes must be borne constantly in mind: (1) To combat the infection that is present; (2) to remove the source of the infection.

The first can be met by increasing the resisting powers of the body to the maximum, and the second by the use of measures that will attenuate, destroy, and eliminate the bacteria and their toxins from the system. Tissue resistance can best be acquired by preserving and increasing the vital forces of the patient. The patient should have absolute rest. Relief of pain should be obtained by use of heat or cold locally, or some of the more harmless drugs. Opium, and its derivatives are absolutely contraindicated, as they decrease leucocytosis. Suitable diet should be employed. The restlessness and distress due to abdominal distention should be relieved by daily enemas of soap or alum solutions. The stomach should be kept clean by lavage when necessary.

The second requirement, destruction and elimination of the bacteria and their products, can be met most effectively by those measures that will increase leucocytosis, and, in accordance with our present knowledge, based upon Metchnikoff's theory, of the ability of the leucocytes to resist and destroy the growth and invasion of bacteria, this seems most plausible. The value of the opsonic theory has not yet been sufficiently demonstrated. In all acute infections leucocytosis is increased, showing that this is Nature's way of defending the body against bacterial invasion. It is natural to infer, therefore, that the means that will increase leucocytosis will accomplish the most good.



F. C. Hammond, M.D.:

The term **pelvic abscess** is rather an ambiguous one, as it may include all varieties of suppuration existing in any part of the pelvis "from the tip of the vermiform appendix to the is-



chiorectal fossa." Some authors restrict it to collections, the sac of which cannot be removed; and others again employ it to designate suppuration of the connective tissue only of the pelvis. In this paper it is restricted to intra- and extra-peritoneal purulent collections in the pelvis which bulge or "point" into the vagina.

If the fluid in the sac formed by the peritoneum, pelvic organs and false membrane is purulent, it should be evacuated. The question naturally arises, shall this be done per vaginam or by the suprapubic route.

Pus demands early evacuation, and in the direction which gives the easiest approach, and affords the best drainage. The mere fact that an organ or cavity contains pus is not a positive indication for extirpation of the structure involved, even though it be lined with a mucous membrane.

The rational treatment of these cases of pelvic abscess is by incision at the most accessible point, and this is accomplished by vaginal section. The following advantages are claimed for the vaginal in preference to the abdominal route. (1) The operation has the advantage of being rapid and invariably free from shock, and within the ability of every intelligent practitioner who appreciates and practices thorough antisepsis. (2) Recovery is less complicated and more rapid. (3) Drainage being "down hill" is not opposed by the laws of gravity, and is more natural, safe and copious. (4) It avoids the probability of ventral hernia, and the complications, accidents and sequelæ incident to an abdominal section. (5) The mortality is less than by the suprapubic route. (6) Permanent and complete restoration to health is the rule, while a secondary operation later is the exception.

The cases most likely to be entirely relieved by vaginal drainage are those in which there is a single well defined collection of pus which can be evacuated completely. When the cellular tissue is more or less honeycombed with multiple abscesses, the progress of the cases will tend to be slow, and may require repeated incisions. Kelly reports one case in which it was resorted to five times before the patient was relieved.

Should a secondary operation by the suprapubic route become necessary, its performance will be more easily accomplished and with less morbidity and mortality, on account of the freedom from pus and the improved condition of the patient.

The technic of the operation is as follows:

As a preliminary the bowels should be thoroughly evacuated. The pubes is shaved, the parts thoroughly washed and a bichlorid of mercury dressing left in place until the patient is placed upon the operating table. Upon the operating table the bladder is catheterized in order to assure its complete evacuation. The vagina and external parts are then scrubbed with a solution consisting of creolin or lysol, 7.5 cc. (3ii), and *sapo mollis*, 60 cc. (3ii) to a quart of hot water. This is followed with sterile water, then bichloride of mercury, 1-4000, and finally alcohol. Retractors are then inserted, retracting the anterior, posterior and lateral vaginal walls, which will afford ample room for operating. Owing to the inflammatory processes and the adhesions, the mobility of the uterus will be more or less limited, also the degree to which it can be drawn down into the vagina. It may be absolutely fixed, and, owing to the large accumulation of pus, the cervix may be forced upward and anteriorly until it is hidden under the pubic arch. The cervix is seized with a pair of double tenaculum forceps (preferably Jacob's, as these seldom slip or tear through). A transverse incision is then made through the vagina posteriorly close to the cervix, irrespective of whether or not it is the most dependent portion of the abscess. Then insert the index finger into the incision and dissect slowly upward, at the same time hugging the posterior uterine wall until the finger breaks through into the pus sac. Occasionally the pus may be higher up; in such cases insert into the fluctuating area a pair of sharp-pointed scissors, open and withdraw. Having opened into the abscess, in subsequently enlarging the opening it is safer to tear the tissues than to resort to a cutting instrument. There is less bleeding, and blood vessels and other structures that may be injured are pushed out of harm's way. We prefer to irrigate all the cases after evacuating the pus, and have never seen any harm produced thereby. For this purpose normal salt solution is used. Formerly the cavity was packed with iodoform gauze, but for the past few years we have been using a T-shaped rubber drainage tube, which permits of thorough drainage, and through which the cavity can be subsequently irrigated if occasion demands. Gauze packing is now limited to those cases in which oozing proves troublesome, or the abscess cavity is very small.

Be sure to open all the pockets of pus. The presence of other collections of pus is readily determined by making pressure with the external hand on any doubtful structures, holding them steadily, while they are carefully palpated by the finger inside the sac. As soon as a well defined fluctuating mass is felt, if there is no doubt of it being an encysted accumulation, its walls may be broken through with the finger and its contents evacuated through the main abscess cavity.

One must guard against evacuating pus into the general peritoneal cavity; but as the pus in most of these cases is sterile, this accident would not appear to be a serious complication. Kelly had this experience in nine out of sixty-five cases, with no onward symptoms subsequently. Under such circumstances it would be best not to irrigate.

In favorable cases the abscess cavity contracts in about two weeks and will be practically obliterated, although of course there are cases which discharge for a longer period.

Under no condition is curetting the cavity admissible, because the thickness of the sac varies in different parts and a perforation might be made unawares into the peritoneal cavity.

As soon as the temperature reaches normal, and the general strength of the patient permits, she may be allowed to leave her bed.



Wilmer Krusen, M.D.:

**Ovarian tumor complicating labor** may make labor difficult or impossible, or the tumor may be twisted, ruptured, etc. Even though the tumor is out of the pelvis and in the upper part of the abdomen, it may interfere with labor because of its size or adhesions. Perhaps the head cannot engage because of a displaced uterus and the adhesions may prevent good contraction of the uterus.

Tumor in the pelvis complicating labor is rarely recognized during pregnancy as it is usually small, very frequently a dermoid, but though small it acts as a mechanical obstruction to labor. In 263 cases collected by McKerron the maternal mortality was 24.5 per cent. and that of the child, forty-seven per cent. The death of the mother is usually due to some trouble with the tumor, as rupture, inflammation and suppuration, peritonitis, twist, etc.

When a pelvic tumor is suspected there should always be a

vaginal and rectal examination. A rectal examination may help exclude a full bowel, a deformed pelvis, etc. When the tumor is found, endeavor to push it up into the abdomen under an anesthetic before the waters come away, because it retards dilatation and may cause the uterus to rupture. If you fail to do this by the vagina, try by the rectum. The knee-chest position may be employed. If you fail to push the tumor up into the abdomen, do not "give nature a fair trial" but resort to some artificial aid. Puncture or incise the tumor, if it appears at all cystic; and then, remembering the danger of infection and peritonitis from the contents of the cyst, or of inflammation of the cyst wall due to contusions, perform an ovariotomy soon after delivery.

Version, craniotomy and forceps are contraindicated when the pelvis is obstructed by a tumor. Cæsarean section is the best treatment. Nature has often performed spontaneous ovariotomy through the vagina or rectum, and this is recommended by some operators as easier than Cæsarean section, and less dangerous. Cullingworth and Spencer in 1898 claimed that abdominal ovariotomy with forceps delivery of the child was the best treatment, but Hirst prefers Cæsarean section.



B. C. Knudsen, M.D.:

Fecal accumulations in the lower bowel cause irritation, and frequently the development of **hemorrhoids in parturition**. Both the enlarged uterus and the fecal accumulation acting as an obstruction to the return venous circulation. Most of us have observed these distressing difficulties and have employed remedies for local application.

We readily understand why enlarged, swollen and painful hemorrhoids should occur during the latter months of pregnancy. But when they persist after parturition and more especially when they develop immediately after parturition it would be natural to inquire why this should be so. The writer was never satisfied by attributing their development and persistence to the hydrostatic pressure during labor, as this cause terminates with its completion.

From a search of the available literature, comprising files of several medical journals and year and text-books, very meager information on this subject was found. I quote from Edgar on Obstetrics: "Pregnancy may cause such a degree of conges-

tion of the rectal veins that it may persist after labor. This condition may show itself during the period of parturition or it may persist afterwards. The pain is very severe. Ulceration and gangrene may result. In treating this condition the bowels must be kept regular and either hot or cold applications may relieve the pain. Astringents, sedatives, or suppositories, sometimes give relief, as belladonna, opium and lead, etc. If strangulation occurs the tumor must be excised." Jewett in his text-book gives the following: "Hemorrhoids in the latter months of gestation are not uncommon. Habitual constipation and pressure of the gravid uterus is usually the cause. The treatment consists in the usual palliative remedies and regulation of the bowels. Surgical methods should as a rule be postponed until gestation is completed."

Regarding the hemorrhoids developing or persisting after parturition the writer has made the following observations: During parturition when the hemorrhoidal tissues become relaxed and distended, they are caused to protrude. When the parts resume their normal proportions some of the protruding hemorrhoidal tissue is caught and held by the constricting sphincter ani, causing strangulation of more or less severity. This condition may easily be overlooked as in most cases the strangulated part protrudes but little, if any, beyond the anal margin. The strangulated parts may be easily replaced by digital manipulation after completion of the toilet of labor, and serious trouble thereby avoided.

The following cases illustrate the condition above mentioned:

Mrs. J. H., forty-two years old, multipara, during confinement stated that she had been confined eight times before and every time she has suffered excruciatingly from hemorrhoids after labor. "Could something not be done to prevent it?" During labor hemorrhoidal tissue appeared at the rectal orifice and after parturition a close examination revealed a small portion of the hemorrhoidal tissue constricted by the internal sphincter. This was replaced and the patient for the first time in nine confinements made a recovery without hemorrhoidal complication.

Mrs. R. M., forty years old, mother of seven children. During labor, the hemorrhoidal tissue appeared decidedly lax and showed a tendency to protrude. On inquiry it was learned that after each of her four last confinements severe hemorrhoidal

complications had followed. After completion of labor examination revealed a portion of the relaxed rectal lining strangulated by the sphincter ani internus. This was replaced and the patient made an uneventful recovery.



Palmer Findley, M.D.:

No less than 10 per cent. of the recent literature on **fibroids of the uterus** has to do with the relation of these tumors to **pregnancy, labor and the puerperium**.

The subject is still sub judice, and as with all debatable questions, there are weighty voices to be heard on either side of the question; yet if one will consider all that is written and carefully weigh the evidence it will be seen that there is a preponderance of evidence testifying to the gravity of the condition and to the proper methods of procedure in the management of these cases.

My conclusions are that the presence of fibroids in a pregnant uterus do not per se call for operative interference. Only when they give rise to symptoms, or are of such size and so located as to be beyond question an obstruction to the development of the pregnant uterus and to the birth of the child should they call for surgical intervention.

Uterine fibroids conduce to sterility in about 30 per cent. of cases, and the percentage of abortions and the fatality attending them is high in those cases not operated and where myomectomy is performed.

The influence of pregnancy on fibroids is to soften and enlarge them through edema and rarely, in the puerperium, through necrosis, and the influence of fibroids on pregnancy, labor and the puerperium is nil in 70 to 80 per cent. of cases.

Fibroids interfere with the development of the pregnant uterus through their size, position and fixity.

Fibroids of the cervix are injurious largely through their interference with the delivery of the child; fibroids of the lower uterine segment in preventing the engagement of the presenting part of the fetus, in causing pressure symptoms and in interfering with dilatation; fibroids of the body of the uterus in the development of the pregnant uterus, interfering with its expelling powers, with the delivery of the child and placenta, with the contraction and retraction of the uterus after its emptying, with the attitude and the development of the child in

utero, and in causing pain and functional disturbances of neighboring viscera from pressure.

Grave consequences may result in the puerperium. The uterus failing to contract and retract firmly occasions post partum hemorrhages; the difficulties in delivering the child and placenta may occasion rupture of the uterus and infection.

Placenta previa is relatively frequent as a result of fibroids located in the body of the uterus. (3.4 per cent. Wenkel) and makes the course of pregnancy one calling for watchful expectancy.

Fibroids commonly enlarge during the course of pregnancy, very frequently they decrease in size after the completion of pregnancy but they have seldom been known to wholly disappear.

Small fibroids, and particularly when sub-peritoneal, do not, as a rule, demand serious consideration. All large fibroids, wherever located, must be seriously considered particularly when located submucous, interstitial, in the broad ligament, the lower uterine segment or cervix. Greater conservatism may be exercised in subserous fibroids of the fundus.

When fibroids complicate pregnancy, and it is evident that pregnancy cannot progress to a successful issue, it is best to curette the uterus before the end of the third month. Where a reasonable doubt exists the pregnancy should be allowed to proceed to a favorable termination, or to the time when interference is demanded in the interest of the mother and child.

No attempt should be made to induce abortion after the fourth month.

Replacement of incarcerated fibroids without interrupting pregnancy is sometimes possible and must be attempted with caution. When found impossible an abdominal section is imperative.

Myomectomy is only advised in fibroids protruding from the cervix or attached to the uterus by a pedicle. Removal of the interstitial fibroids with delivery of the child per vias naturales is attended by grave dangers from rupture of the uterus and infection and should not be attempted.

Cæsarean section without removal of part or all of the uterus together with the fibroids is seldom advisable because of the high mortality and the failure to remove the offending tumors.

Porro's operation is indicated in all cases where the fetus in

utero or the uterus is infected, but the location of the tumor will largely determine the choice of operation.



O. E. Higgins, M.D.:

On April 8, I was called to a young primigravida (at the end of her third month), who was suffering from retention of urine. I found the cause to be **acute retroversion**. After emptying the bladder by catheter, I tried, without success, to rectify the malposition. I then inserted a small rubber ring, wishing, rather than hoping, that it might prevent the recurrence of retention. A short time previously I had found a ring to be quite efficient in the treatment of retention due to the pressure of a fibroid; but in that case the uterus, though heavy, was free to move. The patient was directed to remain in bed and to adopt the knee-chest position frequently. She suffered no further inconvenience, and on April 11, I found that the pelvis was in the normal condition. Reviews of books quite lately published indicate that active treatment of this accident is not yet universally recognized as harmful. Until recently no one believed that the impacted uterus could escape unaided. How, indeed, should it escape? Impaction produces congestion, and congestion aggravates impaction. Clearly, then, the uterus ought not to release itself. Nothing can be more certain, except the fact that it does release itself—usually, if not invariably.



John W. Dillard, M.D.:

I desire to report a case of **ectopic gestation** of the variety commonly known as secondary abdominal pregnancy—primarily tubal.

On October 29, '07, Mrs. T., aged thirty-six, was admitted to the Hygieia Hospital in a much distressed condition. While traveling she was taken suddenly ill with an intense pain in the lower abdomen, most marked on the right side. Shock was severe and she became faint, being unable to travel. Her journey had to be discontinued, as this condition lasted several days. She had missed her period three months, or thereabouts, and regarded herself pregnant. After slowly recovering from the shock and pain, there was no special trouble for several months, when she noticed an enlargement in the right lower



abdomen. She consulted a physician who had treated her for some time for an abdominal tumor.

On examination I found the temperature to be  $102^{\circ}$ , respiration hurried, pulse quick and feeble. Her face was flushed and she had an anxious expression. The abdomen was large, non-symmetrical and sensitive, particularly over the right lower portion. She often vomited after taking food.

The pelvic examination revealed a large and hard globular mass very low in the right iliac fossa; uterus was high in the pelvis, slightly enlarged, soft to the feel, and dilated so that the index finger could be easily carried to the internal os.

She said that she had menstruated early, and was normal in this respect during her single life. She married about eighteen years of age, and had four children at term, no miscarriages, and her labors were normal. She never had any specific disease.

The prognosis was very unfavorable.

Operation was performed two days after she was admitted, and upon opening the abdomen in the middle line between the umbilicus and the pubes, it was found that the peritoneum was strongly adherent to what proved to be the placenta, which though gently handled, gave way, and was instantly followed by the most profuse outpouring of blood that I have ever witnessed from the abdominal cavity. The child, a large monster, in the seventh and a half months of life, was as quickly as possible delivered, the cord cut short and the cavity packed with gauze that had been steeped in hot water. The hemorrhage soon ceased and the incision was dressed as an open wound. The shock, however, was so profound that the mother never reacted, dying about four hours after the operation.

The placenta was strongly adherent to the peritoneum and intestines. During the operation normal salt solution at a temperature of  $110^{\circ}$  was kept constantly flowing into her vessels by hypodermoclysis, and other cardiac stimulants were used, but to no avail.

My rule has been to operate by the abdominal route whenever this condition is diagnosed, or even strongly suspected, regardless of the placental bruit, or of the period of pregnancy, believing that the dangers dependent on a continuation of an abdominal gestation make it unwise to delay the operation until

the fetus dies that the placental circulation may become obliterated.



Wm. S. Moore, M.D. :

Physicians, I have reason to believe, have oftentimes not received credit when credit was due them for having arrested attacks of **puerperal eclampsia**. Many more attacks have been prevented by timely aid and advice of the sagacious physician than have been cured. I feel confident that I have several times prevented these convulsions ; I have at least given timely attention and treatment to that abnormal condition made visible and apparent by edema or anarsarca previous to the completion of the full period of utero-gestation, and by dispelling the outward and visible signs, viz., the edema of the extremities, have been induced to believe that I had warded off what would have resulted in perhaps fatal convulsions.

A lady applied to me for advice in her eighth month of pregnancy ; her limbs were enormously swollen, but no albumen was detected in the urine. She feared convulsions, as she had them in her first labor. It is true, as I could show by statistics, these convulsions occur most frequently in primiparæ ; for this reason neither the patient nor myself nor any one else could confidently expect that she would have them in her second confinement, although the same symptoms were present in both instances ; besides this, neither the patient nor myself had cause, perhaps, to assert positively that the treatment by saline aperients, hot baths and milk diet warded off the anticipated attack of convulsions, although such was the belief. Treatment in one case might be denied any efficacy on account of the spontaneous subsidence of infiltration and edema in the absence of any treatment whatever in another case, which not unfrequently occurs. Convulsions in a first labor do not by any means insure immunity from them in a second labor.

As negative evidence in support of the efficacy of preventive treatment, I may cite a case wherein my patient had convulsions in her first and second labors. Both labors were preceded and accompanied by very great anasarca, and no treatment had been instituted for its relief, or of the renal disease which was its cause. Had a physician been consulted in time, I am of opinion that he would by the use of saline aperients, etc., have prevented the advent of convulsions in these two labors.

Within a few weeks I was called to a primipara who was excessively anasarcaous, the swelling extending up to and upon the face. She was within two weeks of the completion of the full term. I ordered a saline cathartic every morning, followed by hot baths producing diaphoresis; milk diet, etc. This treatment was followed with the gradual but only partial subsidence of the bloating when she entered upon labor, and was attended by my friend, Dr. Potter, who informs me that she barely escaped convulsions. The preliminary or preventive treatment, was not begun early enough to positively insure immunity from attack, but sufficiently early, as the statement of Dr. Potter shows, to have brought the case within the pale of safety.

I have on record many cases showing the efficacy of timely medication in the prevention of convulsions, and believe it should be resorted to in every case where there is anything more than a slight disturbance of the kidney, as it is said truthfully, an ounce of prevention is better than a ton of remedy. I should like, if my space permitted, to dwell somewhat more at length upon the importance and efficacy of preventive treatment in anticipating eclampsia.



C. L. Bonifield, M.D.:

A patient **wearing a pessary** should be examined very frequently at first, to assure the physician that it is doing all that it is expected to do and nothing more; but when it has been doing good work for several weeks it can very well be left alone for a few months. I have without misgivings and without ultimate regrets sent such a patient on a strenuous European tour. For purposes of cleanliness, a patient wearing a pessary should take a douche containing an alkali or a little castile soap daily.

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## Translations.

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**Treatment of the Third Stage of Labor.**—F. von Winckel in a clinical lecture deals with the management of the period of expulsion of the placenta, basing his remarks on an experience in obstetrics extending over fifty years (Deut. med. Woch.). After some preliminary remarks on the introduction

of Credé's method of expression, and the effect which this had on midwifery practice twenty-four years ago, he briefly describes the physiological course of the third stage of labor. The expulsive power, the contraction of the vaginal canal, and the supplemental work done by the abdominal muscles are well known. In 76 per cent. of all cases the placenta is expelled in the manner described by Schultze—that is, it is inverted into the membranes by a more or less extensive hematoma placed retroplacentally. Duncan's method occurs in from 15 to 20 per cent. In this case the placenta is detached at its lower edge first, so that the uterine surface is first seen. The Schultze method is the more favorable.

Schatz explains the mechanism of Schultze's method as follows: The persistalsis of the uterus turns the upper third of the placenta first into the uterine cavity, then the middle third, and, lastly, the lower third. The presence of the buttocks in the lower portion of the genital canal prevents extensive contractions in the lower part of the uterus, and thus produces a sort of resistance peristalsis which acts entirely on the upper parts. The same author considers that the frequency of the method described by Duncan in some clinics is explained by the fact that as soon as the fetal head is born, many assistants and midwives deliver the body without waiting for Nature to complete her work. In this way the resistance peristalsis is prevented, and the placenta is not inverted into the cavity of the uterus. The author considers that only in about 3 or 4 per cent. of all cases is the natural expulsive power insufficient to complete the third stage absolutely without assistance.

The question which he then asks himself is, How long does the spontaneous expulsion of the placenta take? and, arising out of this, Are there any disadvantages for the mother connected with such a process? Various observers have answered the first question in various ways; for example, Campe allows eight hours for spontaneous expulsion. His own experience is given for a series of 968 cases. In 569 it was completed within half an hour, in 262 within one hour, and in 137 within two hours. In other words, the third stage of labor is completed spontaneously within one hour in 86 per cent. of all cases. The suggestion made, that a placenta left in the uterus for over twelve hours after the birth of the child decomposes, is incorrect, since he has met with a case of a perfectly fresh placenta being delivered thirteen hours after the child. He states that in his clinic an expectant management of the third stage is rigidly carried out, and the results show that his morbidity and mortality is not higher than that of other clinics. Between the years 1900 and 1904, 8,097 women were delivered in his clinic, and 14.86 per cent. of them had some fever. This compares favorably with most European clinics. Among the number he lost 0.14 per cent. from infection within the clinic. This,

too, is an average percentage. He gives the comparative figures of other clinics. He therefore claims that the expectant treatment is not less favorable than the active treatment, either with respect to morbidity or mortality.

An objection to this method has been raised that no lying-in institution can afford the time to teach students and midwives if the spontaneous expulsion is waited for. Against this argument von Winckel urges that it is much more important to teach normal processes in midwifery than operative measures. He considers that it is the duty of the obstetric teacher to preach limitation of interference to his pupils. He insists that in practice the expectant method is not to be objected to on the score of loss of time, since as he has shown in the large majority of cases, the third period is completed within one hour. He is convinced that less blood is lost than when the placenta is expressed.

The management which he employs is briefly as follows: As soon as the child is completely born the patient is slowly turned on her back, a hand lying on the fundus of the uterus to make sure that the organ is contracted. The vulva is then cleaned, and a flat china vessel is introduced beneath the nates. The umbilical cord is tied close to the genitals, and the free end lies in the vessel. The hand then is removed from the abdomen, the patient is told to draw up her knees, and she is covered up. She is told that the placenta will be delivered in a few minutes, after a few pains, and that she must say if she feels any blood coming away. She is allowed to bear down when she feels something pressing on the vulva. Every ten minutes one sees how much blood has been lost, and feels if the uterus is still contracted. As soon as the after-birth is expelled, this is carefully examined, especially for any defects at the uterine surface, and also the membranes. When the uterus has been much distended he gives ergot internally or hypodermically at the beginning of the third stage. If, after two hours, the placenta has not been born (this took place in about 3.7 per cent. of his cases) he employs expression, either by Credé's method or by Schroeder's. Should the placenta not follow carefully carried out expression, and if the patient has lost more than 230 grams of blood, he puts her under an anesthetic, and then applies expression again. This mostly leads to success. Only when this fails, and the loss has reached 500 grams, does he have recourse to manual separation and delivery. This procedure is one of the most dangerous of the obstetric operations, and therefore the greatest caution with regard to asepsis, etc., must be employed. It is very rarely necessary.

**Intestinal Obstruction from Calcified Fibroids.**—Morestin (Bull. et Mém. de la Soc. Anat. de Paris.) operated last summer on a woman, aged sixty-three, subject for two years to

chronic constipation. In May, several attacks of obstruction occurred, relieved by purgatives and enemata; the pain was severe and referred to the right of the hypogastrium. At length all the symptoms of complete obstruction developed. There were two very hard masses in Douglas's pouch, but the seat of obstruction in the bowel could not be accurately defined. The cecum being greatly distended it was opened, and great masses of solid feces with much flatus came away. After the patient was completely relieved the pelvis was explored and it then became evident that its cavity was blocked with hard fibroids. As the patient was very anxious to have the artificial anus in the cecum closed, Morestin operated again sixteen days after he had relieved the obstruction. He found several calcified fibroids in the pelvis; one as big as an orange arose from the lower part of the back of the uterus and compressed the rectum, which was also encumbered with numerous bands of adhesion; these were divided. The uterus with its fibroids were removed by subtotal hysterectomy, the artificial anus, however, was not closed. Anuria set in on the second day, with great contraction of the pupils, and the patient died on the fourth day. No necropsy was permitted. Morestin believed that the kidneys had been damaged by the pressure of the fibroids on the ureters.

**McBurney's Point.**—In the *Centralbl. f. Chir.* Professor Lanz questions the adequacy of McBurney's point as a guide to the appendix, and describes a method which he has been led by experimental and clinical research to advocate as more reliable. In performing lateral laparotomy, which, he states, is most frequently indicated in cases of appendicitis, he has for some time past been in the habit of making the external incision in the curved line running across the front of the abdomen between the two superior iliac spines. Having found that by this incision in the intraspinal line the appendix can be rendered more readily accessible than by the usual oblique incision carried through McBurney's point, he directed special attention to the localization of this structure. On making twenty post-mortem dissections on the human subject, Schröder, working under the directions of the author, found that the situation of the attached portion of the appendix is much more constant than has hitherto been generally supposed. These observations show that McBurney's point has no relation to the situation of this part of the appendix, and that it corresponds to the inner margin of the ascending colon about  $\frac{1}{2}$  inch above the attachment of the process. In one case only, and that a pathological one of excessive ascites, was McBurney's point found to be directly over the base of the appendix. The author holds that the base of the appendix corresponds to the point marking the junction of the right and middle thirds of the intraspinal line,

and that this is the best place for palpation in cases of suspected appendicitis. Although McBurney's point has undoubted diagnostic importance by reason of its being a very tender spot in cases of appendicitis, there is a risk of overrating its utility in this respect. Tenderness at this point may, the author points out, persist after removal of the appendix. Moreover, palpation at the point may do harm in cases of appendicitis, and also set up an attack of inflammation in a healthy appendix.

**Placenta Previa.**—A proper understanding of the pathology of placenta previa can, according to R. Freund (Deut. med. Woch.) be obtained only if one fully grasps the anatomy and physiology of the lower uterine segment. He details the anatomical division of the uterus into the body, the cervix, and the part lying between these two. He renders the anatomical conditions in the virgin, in pregnancy, in parturition, and in the puerperal condition clear by means of diagrams. The lower limit of the lower uterine segment is marked by the transition of the uterine into the cervical mucosa. The upper limit is marked by the transition of the uterine muscle and the muscle of the canal through which the fetus has to pass. The lower uterine segment forms its own decidua in pregnancy. The establishment of placenta previa has been explained in various ways. It has been suggested that the covering of the internal os by villous tissue is due (1) to the primary alteration of the mucous membrane at this situation to form a basis for the settling of the ovum, or (2) to proliferation of villi around the cervical canal, or (3) to the adhesion of the so-called reflex placenta or to a combination of the last two factors.

Freund considers that the two last-named suggestions are more probable than the first. The bleeding in placenta previa appears to take place from the tearing of the decidua which covers the placental site, which results from the opening of the intervillous spaces. After examining the conditions found in specimens of complete uteri with placenta previa (one specimen has been gained in the clinic in Halle, from a young woman who died undelivered immediately after admission), he finds that the terms "marginal placenta previa," "central placenta previa," and "total placenta previa" are justifiable, but he agrees with Aschoff that a new term, "placenta previa cervicalis," is useful, since it describes a condition which actually exists.

Having disposed of these theoretical considerations, he turns to the question of treatment. During the last four years (1904 to 1907 inclusive) 69 cases were dealt with. Of these, 12 were delivered outside; 7 cases terminated fatally, that is, 10.1 per cent.; 22 of the patients had fever, of these 1 was suffering from advanced phthisis, while the other 21 showed signs of genital infection; 71 children were born. One of the patients

died undelivered, while twins occurred three times; 53.5 per cent. of the children were born alive, and 49.3 per cent. were alive when the mother left the hospital. Of the dead children, 4 were premature dead fetuses, so that the actual mortality of this condition for the children may be taken at 40.8 per cent. In 8 cases spontaneous delivery followed rupture of the membranes. Dilatation by the bag followed by spontaneous delivery occurred in a further 8 cases. Dilatation and version was adopted in 15 cases, and Braxton Hicks's version was performed thirty-two times. The results for the child in the last class were very bad, 69.7 per cent. being born dead.

From his experience he advises complete rest and clinical watching when the hemorrhage is moderate. Plugging should not be carried out. Only when the cervix is closed and the bleeding severe should one employ plugging. This should be carried out with moist sterile gauze by Fritsch's method, and should be kept up for a few hours only. When the hemorrhage is severe and the cervix dilated one should rupture the membranes and wait, but when the bag of membranes cannot be easily reached the cervix should be dilated with Champetier de Ribes's bag. As soon as the os is fully dilated, one can either wait for a spontaneous delivery or perform version, according to the position of the fetus, the type of pains, and the presence or absence of bleeding. After four hours, provided that Champetier de Ribes's bag has not done its work, or when one is dealing with premature unviable children, one should turn according to Braxton Hicks, and wait for the delivery. Of the two operative methods of dealing with this condition, he dismisses as unsuitable abdominal Cæsarean section, and finds that anterior hysterotomy (vaginal Cæsarean section) should be chosen.

**Female Genital Tuberculosis.**—A. Martin (Berl. klin. Woch.) examines the various sides of this disease critically, in order to gain an insight into the direction in which improvements can be made. There is no doubt that genital tuberculosis can occur as a primary disease. It is, however, not frequently primary. Most commonly is the disease secondary to an intestinal-peritoneal tuberculosis or to a hematogenous infection. The genital affection, as a secondary condition, however, is often so prominent that one has to turn one's therapeutic endeavors almost entirely toward it as a local lesion. With regard to the frequency of genital tuberculosis, exact information is not available at present.

In the opinion of many careful observers it is extremely common, Jung ascribing 24.6 per cent. of the chronic affections of the uterine appendages to this disease. It occurs chiefly in the second and third decades of life. In nearly 55 per cent. of the cases it does not affect menstruation. Pain may be present



or may be totally absent, while an evil-smelling blood-stained discharge is often noted. The patients look ill and feel ill as a rule. The subjective symptoms are so varying and little characterized that one cannot even point to one symptom which would raise a suspicion of genital tuberculosis. Objectively, infantilism is said to be an important etiological factor. Advanced disease excludes the possibility of pregnancy, but one at times sees cases of tuberculosis of the placenta, and at times the onset of the disease takes place in connection with a pregnancy.

The diagnosis is very difficult at times. Subcutaneous injections of tuberculin sometimes fail to illuminate the true state of affairs, since some advanced cases do not react, while in other cases a reaction is due to tuberculosis elsewhere. Notwithstanding this, Martin finds this method of considerable use. He thinks that the ophthalmo-reaction to tuberculin may prove of use, but at present he is not prepared to express an opinion as to its diagnostic value. The clinical diagnosis can practically only be made by removing a small piece of tissue and examining it. Even at the operations the changes are not absolutely characteristic, and the microscope is required to confirm the diagnosis, or else an animal inoculation; 66 per cent. of his cases were localized in the appendages, while the affection of the cervix is rare, and that of the vaginal mucous membrane still rarer. He states that cases which have been proved to be certainly tuberculous have spontaneously healed.

The prognosis, nevertheless, is always a very serious one, since cure depends on a large number of factors. Naturally the chances are best in very early disease. With regard to treatment, he says that the diseased tissue, if situated in the vulva, vagina, or endometrium, should be excised and the defect closed by suture. The endometrium should be energetically scraped and the wound cauterized, preferably with perchloride of iron. Salpingitis, sactosalpinx, and oöphoritis tuberculosa are often only suspected at the operation. The peritoneum is frequently involved in these cases. In the majority of cases he operates vaginally, but when he cannot be certain as to the limit of the affection he prefers the abdominal operation. When the disease is bilateral, he removes all the tissue which appears to exclude spontaneous recovery.

It is not necessary to operate radically for this condition since the organism can help itself in many cases; and, further, because one cannot possibly get at all the diseased parts. He gives the results which he has obtained in 53 patients. Three cases of laparotomy died of acute septic peritonitis (2 cases) and a large abscess in the right kidney. Five others succumbed to their tuberculosis of the lungs. In 85 per cent. the primary recovery was satisfactory. The patients could be discharged in fairly good condition, and were subjected to a planned after-treatment. With regard to the ultimate results, he has details

of 27 cases. Sixteen of these are recorded as cured, the duration of the cure being tabulated as one year, two years, four years, and longer. Two died of tuberculosis during the first year, and one died of an independent disease, 6 were considerably improved, and 2 are entered as not cured. He considers that he is justified by his experience to advise in the treatment of genital tuberculosis intensive general treatment, and local treatment of severely diseased parts, the situations which appear to be capable of spontaneous cure being left untouched.

**Prostatectomy.**—Boeckel (Bull. et Mém. de la Soc. de Chir. de Paris) has devised a new method of removing the prostate, by which the diseased gland is freely exposed both to sight and palpation by temporary mobilization of the anorectal segment of the lower bowel. This method, the idea of which was first suggested to the author in the course of operations for the removal of the cancerous rectum, has been practiced by him with success on the living subject, and is advocated as a safe and, under certain conditions, a preferable way of attacking the prostate in cases of simple hypertrophy, of malignant disease, and of abscess.

The external incision is carried in a straight line from the base of the coccyx to the posterior margin of the anus, and then encircles this opening. The subcutaneous cellular tissue having been incised, and the recto-urethral muscle cut through, the rectum can be readily detached by the finger from the surrounding structures as far as the prostate. The detached anorectal portion of intestine, measuring from 7 to 9 cm. in length, is then drawn backwards to the upper portion of the external wound. After division of the prostatic capsule, the lateral lobes can be readily enucleated by the finger.

In cases of hypertrophy of the median lobe it is necessary to remove the whole gland, together with the corresponding portion of the urethra, the divided segments of this canal being subsequently brought together by sutures. The ano-rectal stump is finally replaced, and the external wound is sutured around a strip of gauze placed in the recto-urethral triangle for drainage.

**Ovarian Tumor Complicating Pregnancy and Labor.**—Lobenstine (Berlin Clin. Woch.) reports a number of cases of ovarian tumor complicating the parturient process. Realizing how likely such tumors are to give rise to trouble during pregnancy, and how likely they are, if neglected, to cause difficulties during labor, it is unwise to postpone the operation, until acute symptoms make it urgent. The maternity mortality is between 20 and 30 per cent. in cases not operated on, as against 2 and 3 per cent. in those operated on. Operative interference is advisable as soon as possible after the diagnosis has been established. Fetal mortality is not greater than when a conserva-

tive line of treatment is followed. By waiting until the later months of pregnancy the technique is increased in difficulty, owing to the greater size of the uterus. When operative treatment has been withheld, and the patient reaches term with such a tumor, no treatment is required after the onset of labor, unless the tumor descends into the pelvis. When this occurs, an attempt should be made to push it up into the false pelvis, great gentleness being exercised in the manipulation. If this is unsuccessful and the child is alive, a vaginal ovariectomy with subsequent delivery per vaginam, or a Cæsarean section with ovariectomy, must be performed. If the child is dead and the dystocia is not too great, craniotomy and extraction is the course to adopt. The alternative is a vaginal or abdominal ovariectomy, and then a craniotomy.

The tumor should not be punctured, but if the cyst is ruptured during delivery the abdomen should be opened at once. The tumor is liable to cause trouble during the puerperium; if it becomes infected it may promote peritonitis or set up a general infection. In the early days of the puerperium the chances of axial rotation are very great, owing to the lax and atonic condition of the abdominal wall and viscera. It follows, therefore, that early operation is the best treatment whenever possible, even if no serious symptoms indicate intervention.

**Prolonged First Stage in Primiparæ.**—Das (Journ. et Obstet. de Gyn.) reports two cases of primiparæ in which the first stage of labor was unduly prolonged until he ruptured the membranes, after which rapid progress was made. In both cases the membranes were unusually tough and hard, and the fore-waters were scanty, the membranes did not bulge, but became tense with the occurrence of the pains. In the first case, before the rupture the os admitted three fingers with difficulty, it was fully dilated three hours later. In the second it took the os sixteen hours to dilate to two fingers' breadth, and less than an hour for the remainder of the first stage and the whole of the second stage to be accomplished. The writer has encountered many cases of a similar kind, always in primiparæ. In some of his earlier cases, thinking the delay to be due to adhesion of the membranes, he tried detachment of the membranes from the lower uterine segment. This, however, had no effect until he ruptured the membranes, which were not doing their work. On a close examination of the secundines the placenta is found to have a low insertion, and this condition is apparently the chief factor in causing the delay by not allowing the lower uterine segment to retract past the membranes, which are applied closely over the fetal head. When the following conditions are present, rupturing the membranes will expedite labor: Prolonged first stage, presenting head low in the pelvis, primipara, os soft, dilatable, and generally thin, very little fore-

waters, membranes tough and not bulging through during the pains. Text-books do not call sufficient attention to this point; on the other hand, the teaching that the membranes should be preserved as long as possible contributes towards longer delay and more suffering. These are the cases where premature rupture of the membranes will help dilatation and expedite labor.

**Pyosalpinx Emptying into Uterine Cavity.**—Cadenat (Bull. et Mém. de la Soc. Anat. de Paris,) reports a case of a salpingitis discharging into the uterus through the ostium uterinum, the specimen being exhibited before a society. It threw light on the disputed question of the ordinary course of a pyosalpinx, or collection of pus in the tubal canal closed or unclosed. The specimen consisted of a fibroid uterus removed with the left tube. The fibromyoma occupied the wall of the uterus in its right and anterior portion. On opening the uterine cavity greenish pus was seen at the site of the uterine orifice of the canal of the left tube. The tube was pressed and more pus issued from the orifice. No pus had escaped before the operation, and Cadenat took pains to note that in this specimen the uterine orifice of the tubal canal was so wide as to be visible to the naked eye. Cadenat admits that little trust can be placed in cases of reported emptying of the Fallopian tube based on purely clinical evidence. Jayle relates a case which showed up a fallacy. A woman underwent curetting for uterine discharge. A swelling of the appendages was definable when the curette was applied. The usual gauze plug was applied; when it was removed pus escaped, and the swelling was found to be smaller. Abdominal section was performed, and nothing could be detected save serous peritonitis traced to purely ovarian lesions. Hence Cadenat remains sceptical about the discharge of pus in purulent salpingitis and pyosalpinx into the uterine cavity; it is apparently a most exceptional condition. In Jayle's case the diminution of the pelvic swelling did not represent the emptying of a dilated and obstructed Fallopian tube; it was the subsidence of inflammatory engorgement in the ovary brought about by rest after the application of the curette.

**Ligature of the Subclavian Artery.**—Reidel (Zentralbl. f. Chir.) in a short paper on supraclavicular ligature of the subclavian by means of an incision in the direction of the large nerves and of the artery, expresses the opinion that some of the "seat of election" methods of exposing large arteries, such as are taught in classes of operative surgery, and still favored by examiners and candidates, do not meet the conditions of modern surgical practice. For instance, the usual method of exposing the external iliac artery by division of the internal

oblique and transversalis muscles is likely to be followed by hernia, while, as the author has found in actual practice, this vessel may be readily reached and tied by one of the simpler and less extensive incisions made in appendicetomy.

Ligature of the third part of the subclavian by the transverse incision above the clavicle necessitates introduction of the surgeon's finger into the wound for the purpose of feeling the scalene tubercle, and of distinguishing the flat and pulsating vessel from the rounded nerve, and thus tends to favor the risk of wound infection. In this operation the author would make an incision from the transverse process of the fifth cervical vertebra to the middle of the clavicle. After division of the skin and platysma it will be found necessary to ligature and divide numerous veins that are exposed to view, and also the transversalis colli artery. Any enlarged lymph glands found in the wound should be removed. The three cords of the brachial plexus having been followed from above downwards in the interspace between the anterior and middle scaleni, the artery will be reached, which, though deeply situated, may in a good light be readily cleared of sheath and ligatured. This method, the author states, has been found by his students of operative surgery easier and less prolonged than that of the transverse incision. In the only instance of ligature of the subclavian artery in his own practice he met with considerable difficulty in exposing the artery by the usual method, which, he believes, would have been prevented by making the excision proposed in this paper.

**Delivery of the Placenta.**—Rudaux (La Clin.) discusses the final stage of parturition and its treatment. After the expulsion of the fetus the uterus is found to be firmly contracted and its level is practically that of the umbilicus; a few minutes later the fundus, still remaining well contracted, rises to a height of 3 or 4 centimeters above this level, indicating that the placenta has passed from the upper to the lower segment, and that the latter has expanded to accommodate it. During the period of waiting the writer recommends that a hot vaginal douche be given, that any unnecessary length of cord be removed, and a warm pad applied to the vulva; the condition of the pulse should also be noted at intervals. Twenty to thirty minutes later the fundus will be below the level of the umbilicus, and the placenta will therefore have passed from the lower uterine segment into the vagina. The right hand grasps the cord, while the left is placed on the abdomen, and with a combined movement of expression and traction delivery is effected. At the end the movements must be greatly modified to avoid tearing the membranes of placental tissue, which may thus be left behind. The expulsion of the placenta is often followed by rapid and vigorous contraction of the

uterus, which is liable to retain part of the membranes; they should therefore be gently twisted, and withdrawn with much care. It is advisable to wash the patient with soap and water previous to giving a hot antiseptic douche and applying fresh pads and linen; during the first hour the condition of the pulse and the size of the uterus should be noted at intervals. A very careful examination of the placenta and membranes is then made, and the weight of the placenta is noted, as it bears a distinct relation to the weight of the child. The risk of febrile disturbances or hemorrhage is so great when there is retention of a cotyledon or of a portion of the membranes that there should be no delay in removing such material from the uterine cavity either with the finger or by curetting.

**Hydros Tubæ Profluens: Papilloma of Both Tubes.—**

Danel (*Journ. des Sciences Méd. de Lille*,) observed this condition in a unipara, aged forty-nine, who had not been pregnant for twenty-nine years, and had never aborted. The periods until her illness were quite regular, and there was no evidence of any kind of pelvic disease until one year before she came under observation. Then pains were felt in the left side of the abdomen, persistent, but varying in severity. They were worst during the periods, which became irregular, whilst the show lasted for five or six days, without any clots being passed. For six months before she sought relief this patient was troubled with very free watery discharge. Sometimes over a litre, or a pint and three-quarters, came away within twenty-four hours. A firm tumor was detected in the hypogastrium, reaching half way to the umbilicus. It was continuous with the cervix, and was diagnosed as a soft fibroid or cancer of the body of the uterus. Abdominal section was performed, and the tumor was found to consist of both Fallopian tubes, making up a mass of the size of an orange. They were removed, and part of the left ovary could not be taken away, as it adheres strongly to the pelvic wall. The dilated tubes were filled with papillomatous masses, which did not show any signs of malignancy. Duret could not feel certain whether the growth was from the first a neoplasm or originally a product of inflammation. Eleven months after the operation the abdomen became distended with ascitic fluid, and malignant masses were found in the pelvic and abdominal cavity and in the parietes.

# THE JOURNAL OF SURGERY GYNECOLOGY AND OBSTETRICS.

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## TUMORS OF THE CAROTID GLAND: TWO CASES.

BY W. E. GREEN, M.D.

The surgical treatment of this pathological anomaly is not to my knowledge described in any of the text-books on surgery, and the existence of the gland is not mentioned in my copy of Gray, 1887, and Gerrish, 1902, devotes but four lines to it. There are, however some journal articles on the neoplastic growth of the gland. The last and best one that has come under my observation is by W. W. Keen, Journal of American Medical Association, August, 1906.

The gland was described by Haller more than one hundred and fifty years ago, but the first study of the morbid enlargement was given by Marshand in 1891.

The carotid gland is an anomaly of only occasional occurrence, situated at the bifurcation of the common carotid, lying between the external and internal vessels, and a little behind them, but more intimately connected with the internal than the external carotid. It is covered by a sheath with penetrating septa and is supplied by one or more small vessels which arise either from the common or internal carotid. Gerrish describes the gland as follows: The two glandulæ carotidæ are thus named because each is situated in the bifurcation of a common

carotid artery. These are composed of nodules, each of which is a mass of epithelioid cells, among which are large capillaries. A fibrous capsule covers the gland and sends trabeculæ between the nodules.

The tumor usually presents itself to the surgeon as an egg-shaped growth lying along the tract of the carotid artery, partially covered by the sterno-cleido-mastoid muscle, and is more or less elastic and movable. My first one, the size of a pullet's egg, was rather hard; the second, size of a large hen's egg, was elastic and movable and somewhat pulsating. The symptoms in both cases were negative; both patients, females, applied for relief of the deformity the tumors produced.

These neoplasms are grouped with the endotheliomata, and are therefore adjudged to be of a mildly malignant nature. However, in the early stages they seem to run a benign course, and if removed early show no tendency to recurrence. They envelop not only the common carotid, but both its branches, the internal and external carotids, with the jugular vein intimately adherent to the capsule. They grow slowly and become very vascular. In my first case the tumor appeared to lie right in the fork, and grew upwards, while in the second one, the common carotid entered the tumor and bifurcated in its substance, with both internal and external carotids, emerging from the top, the tumor having developed both upwards and downwards.

An extensive pathological report of the tumor removed by Dr. Keen may be found in August, 1906, number of the *Journal of the American Medical Association*.

When we consider the important structures involved, the necessity of ligaturing the common carotid, both its branches, and the possibility of injury to the pneumogastric, the hypoglossal, the lingual, and the sympathetic nerves, the dangers and consequent sequelæ can well be imagined.

The mortality from the operation is very large, 27 per cent. to 50 per cent., and numerous sequelæ follow in those who have recovered, as paralysis, dysphagia, tracheal and laryngeal irritation, altered pupils, etc. In only a very few cases has recovery been free from some form of consequent complication.

Case 1.—Miss A., æt. twenty-seven, consulted me March 10, 1898, on account of a small tumor situated on the right side



of the neck, lying just beneath the edge of the sterno-mastoid muscle, on a level with the bifurcation of the common carotid artery. It had been growing very slowly for about two years. As it produced a slight bulging, and she feared it might be malignant, I advised its removal, to which she readily consented. She was accordingly anesthetised, placed upon the table, and an incision three inches in length made along the edge of the sterno-mastoid muscle down to the tumor. The jugular vein was found to be intimately adherent to the growth, therefore it was ligatured both above and below the tumor. Then both the internal and external carotids were imbedded in the substance of the growth, it being wedged, as it were, right in the arterial fork, both vessels were much attenuated, seemingly having been pressed upon by the growth. In an attempt to release them by a careful dissection, they were both nicked so that it became necessary to ligature the common carotid just below the tumor. The distal ends of both carotids were also ligatured, a No. 3 cat-gut was used in each instance. After securing the carotids the work was quickly done. The tumor was very vascular and the hemorrhage severe. After closing the wound the patient was put to bed between blankets and surrounded with bags of hot water. The legs were banded to the hips and the foot of the bed raised eighteen inches.

She did well until the morning of the fifth day, when, contrary to orders, while the nurse had momentarily left the room, she raised up in bed to get a drink of water and fell over in a faint; upon returning to consciousness it was found that she suffered from a right-sided paralysis. She got up slowly, but never recovered fully the use of either the hand or foot. The results subjected me to severe criticism by both the family and friends.

While I realized at the time that I was dealing with an anomaly, I did not know the true nature of the growth until some time afterward, when I read a journal article upon the subject.

Case 2.—Mrs. B., æt. forty-five, consulted me March, 1908, on account of a tumor on the left side of the neck. It was the size of a large hen's egg and gave her much uneasiness lest it be malignant. The growth had been slowly developing for about seventeen years, was movable, elastic, slightly

pulsating, and was lying largely beneath the anterior border of the sterno-cleido-masoid muscle. I diagnosed some form of vascular tumor, and recommended its removal. As this met with the patient's approval, she was accordingly anesthetised, placed upon the table, and an incision beginning just beneath the jaw, immediately posterior to the facial artery, extending through the platysma, was carried vertically downward to near the clavicle, then turned backward across the neck for four inches, then upward, running parallel with the first, or downward incision, ending at the posterior aspect of the mastoid process. This U-shaped flap was then dissected upward as far as the lower border of the inferior maxilla and tip of the mastoid. The sterno-mastoid muscle was then reflected backwards and the tumor thoroughly exposed through its entire length. It extended from the angle of the jaw downward to near the clavicle, was purple or bluish in color, and very vascular. The deep jugular vein was intimately attached to its posterior border, and the common carotid entered the tumor below, and both the external and internal carotids made their exit from it above. The pneumogastric could be seen passing behind, but entangled in its capsule. The growth was extremely vascular, especially in its upper segment, seemingly a congeries of enlarged veins, that bled freely upon the slightest injury. Wherever the capsule was wounded the blood flowed out as if coming from a sponge.

After fully exposing the tumor in this way, I realized its nature, also the dangers to which I would subject the patient if I proceeded further in its removal. In order to finish the operation I would be compelled to ligature the common and both the internal and external carotids and the jugular vein as well; there was also the serious possibility of injuring the pneumogastric hypoglossal, glossopharyngeal, and descending noni nerves. Since I had informed the patient beforehand that the operation would not be of a serious nature, and profiting by my former experience, and by the experience of others of which I had read, I decided to abandon further operative procedures and close the wound. In this I was sustained by my assistant, Dr. Dunaway, a physician of extensive pathological knowledge and considerable surgical experience.

The patient made an uneventful recovery, and left the hospital on the tenth day, carrying her tumor with her.

After I had explained to her the nature of the growth, the high mortality attending its removal, and the consequent complications, she seemed well satisfied with my decision to leave it alone.

## TUBERCULAR PERITONITIS.

BY DE WITT G. WILCOX, M.D.,

Surgeon to the Buffalo Homeopathic Hospital ; Gynecologist, Buffalo Erie County Hospital ; Surgeon-in-chief, Lexington Heights Hospital.

Apparently this disease has been encountered rather more frequently during the last decade, than previously. No doubt, the apparent increase is due to the twin factors of more precise methods of recognition and the increase of pulmonary tuberculosis. It occurs more frequently in women than in men, the ratio being about sixty to forty. Its presence in the abdominal cavity is no doubt due to bacterial invasion through the alimentary tract in the male, and the genital tract, plus the alimentary canal, in the female. It exhibits itself in three well-recognized forms:

First—The ascitic form.

Second—The fibrous.

Third—The ulcerative or suppurative.

Although these are described as three distinct forms, I am inclined to think they are but different stages of the same disease. The ascitic form exhibits few pathological changes. The abdominal cavity contains more or less clear serum; the entire peritoneum, or only a very small part of it, may be studded with small nodules of whitish, shining appearance, and placed closely together. These are about the size of buck-shot, and impart to the fingers, when passed over them, very much the same sensation as when fingering a handful of buck-shot. The disease may be so extensive that every viscera in the abdomen and pelvis is covered with these nodules; then again, but small areas are seen, here upon the parietal peritoneal, and there upon the mesentery or omentum, or covering a loop of intestine. The surface immediately adjacent to these nodules is congested, and if handled roughly, bleeds readily.

However few or numerous these nodules may be, a little search will generally reveal one spot, or one viscera, where they are thickest, and which, in all probability, was the starting point of the disease.

The Mayos estimate that in men the cecum or appendix

acts as the distributing center, or the initial focus in about 75 per cent. of cases. In women, the tubes seem to be the distributing center in about 75 per cent. of cases. In the other 25 per cent. of cases, the infecting center is in the mesenteric glands, the bladder, or the omentum.

The symptoms presented by tubercular peritonitis of the ascitic form are not very pronounced in the early stage of the disease; but as this is the period in which it is most essential to recognize it, if we wish to effect a cure, it behooves us to keep before us such symptoms as will enable us to detect the disease early. Persistent abdominal discomfort, without special localization, is an early symptom. Next comes a slight rise of evening temperature; this may be so steady, that with the malaise and abdominal pain, one may suspect typhoid. Then comes loss of weight, especially noticeable in the face, a haggard expression, a slightly distended abdomen, together with a periodic diarrhea. One soon dismisses typhoid and appendicitis, because of the chronicity of the disturbance; but salpingitis is not so easily dismissed, especially when the tubes are the origin of the disease.

In the early stages, however, of tuberculosis of the tubes, the onset of the disease is much more moderate than in salpingitis, due to gonococcic or staphylococcic infection. The latter is usually announced by very acute symptoms, which fulminate to the maximum within a few days, and then settle into the sub-acute or chronic stage, while the former has no definite onset at all and only reaches the maximum after weeks or months of progress.

Given a male patient, thirty years of age or over, who complains of constant abdominal distress, general, not localized, who has a persistent evening temperature, not high, ranging from two-thirds to one and one-half degree, who is losing flesh but retains a fair appetite, who is growing weak, who has a slight diarrhea, whose abdomen is enlarging, but is not especially sensitive, and one may reasonably conclude that tubercular peritonitis is probably the cause of the trouble.

As to the tubercular test affording any special light on the subject, there is a diversity of opinion. The weight of evidence seems to regard it as a negative test. However, it is to be regarded as corroborative.

The treatment, and I am still speaking of the ascitic form,

is medical and surgical, but the best results are undeniably obtained by the latter method. Fenger states that 50 per cent. of all cases are curable under medical treatment. I am inclined to believe that could the disease be recognized early, and an early operation performed, a much larger proportion would be cured by surgical measures; certainly it would cut short a long period of invalidism and tend to secure more permanent results. The medical treatment is largely climatic and dietetic, with the administration of the indicated remedy. The surgical treatment consists in opening the abdomen, evacuating the fluid, and making a careful search for the initial focus. If this be in the tubes, ovaries, uterus, or appendix, that organ should be removed. The intestines should be handled as little as possible, as they are rather friable if the nodulation is extensive. Resection gives very poor results, as union is slow and uncertain in the infected gut. Drainage should not be employed, owing to the danger of necrosis of the bowel or the spread of the infection. As to injecting the peritoneum with iodoform emulsion, there is some question whether it is beneficial. I have seen cases where it seemed to do very effective work, and I have seen others where it really seemed to do harm. On the whole, I think it better not to employ it. Of course, it goes without saying, that if the case is complicated with pulmonary tuberculosis or other tubercular lesions, the prognosis is less favorable; but my observation has been that but few of the abdominal cases have other lesions. The old theory that these cases are benefited by the admission of light and air into the abdominal cavity still holds, as there is every evidence that a simple abdominal section and the removal of the serum results beneficially; but it is imperative that all fluid should be removed and the cavity dried with gauze. Indeed, the removal of the fluid may be the chief factor in the cure. Next, remove the initial focus if possible. Abdominal puncture is a bad practice in these cases, as it is dangerous and futile.

In considering the fibrous and ulcerative types, we have simply an advanced stage of the disease, and one which promises very little for a cure by surgical measures. We have here a condition where the fluid has been absorbed, partially or completely, the intestines matted together in great bunches, the omentum thickened and rolled up into a mass, and finally,

suppuration and ulceration of the agglutinated masses. This is a stage that has passed all surgical aid, and had best be let alone.

It is, at times, surprising how long these patients can live and remain fairly comfortable with the intestines matted together, the omentum thickened to the extent of four or five inches, the entire abdominal and pelvic peritoneum infiltrated with nodular masses, and all the mesenteric glands enormously enlarged. Yet they do live for two or more years after the disease has reached such a stage that the nodular masses can be easily felt through the abdominal wall.

Summing up, therefore, we have these salient points to remember in tubercular peritonitis: General abdominal discomfort, rather than pain; some slight rise of evening temperature; loss of flesh and strength; facial emaciation, abdominal enlargement. To resort to surgical treatment if a careful but not prolonged medical treatment fails to give results. To make a free opening into the abdomen, evacuating the fluid, drying the cavity, removing the initial lesion if possible, and close without drainage. If the disease has reached the fibrous or ulcerative state, to avoid surgical measures.



## CONGESTION OF THE LIVER AND INFECTION OF THE GALL BLADDER.

BY ENOS C. KINSMAN, M.D.

For several years I have been very much impressed by the number of patients coming under my observation, who gave no direct history nor yet had any symptoms indicating the presence of gall stones, other than those described later as found in patients suffering from congestion of the liver and infection of ducts.

Many of those cases were under surgical treatment for other pathological conditions, and on examining the gall bladder it was found to contain stones, varying in size and number, but apparently causing no inconvenience, at least there were no symptoms directly referable to them.

I always found, however, that their removal and the subsequent draining of the bladder produced good results, that my patients were much better generally, their bilious attacks being relieved.

This led me to the belief that many of our cases with a bilious history were in reality suffering from the presence of gall stones. I now believe, however, that the calculus has little influence on the hepatic tissue unless it is lodged in some of the ducts preventing the easy escape of the bile.

My only apology then for presenting this short paper is that I wish to enter a plea for our long-suffering and patient patients who designate their ailments as being due to biliousness or to a bad liver.

In the majority of such cases a careful examination will reveal a large and tender liver; vibration causes uneasiness, varying from a disagreeable sensation to actual pain, radiating in no particular direction, but confined closely to the limits outlined by the hepatic borders.

The symptoms obtained from this class of cases present a great similarity and can be summed up as being characteristic of bilious attacks, or enumerated as coated tongue, foul breath, languor, dizziness, irregularity of stool, and varying appetite, etc., all of which are ameliorated by the administration of some hepatic stimulant.

Patients so affected soon learn that they are better tem-

porarily at least after a few doses of calomel, so they make their own diagnosis and often do their own prescribing.

This class of cases, if allowed to run, will in time find their way into the hands of the surgeon, often with serious complications, but which, if treated early, would come under the head of congestion of the liver, and demand an explanation as to why this congestion existed, and by what means it could be permanently relieved.

It is quite evident that this condition is not due to an obstruction to the common duct, either by the presence of calculi or malignant growth, for in such cases you would have more pronounced symptoms, such as jaundice, and in malignancy unmistakable constitutional evidence of its existence.

If then the condition is not due to obstruction to the easy escape of the bile, then it must be due to some form of stasis within the organ itself, which interferes with the proper performance of its function, thereby causing congestion.

A great difference of opinion exists as to the method of infection of the liver and ducts, including the gall bladder.

Some authors seem very positive that with normal conditions above it is impossible for the bacillus coli to enter the common duct from the intestine, at the same time claiming that the infection reaches the liver through the portal circulation.

On the other hand, those who favor the path of infection from intestine to liver by way of ducts are equally as positive that the bacilli introduced into the circulation are destroyed by the liver cells themselves, and do no harm.

It appears, however, to be satisfactory to most writers to assume that the infection, no matter how transmitted, is derived from the intestine, and that where such infection exists colon bacilli are invariably found.

Such being the case, we can hardly expect the resultant condition to be relieved by nature; if the bacilli were deposited in the liver by way of circulation, then reabsorption would not lessen the trouble, whereas, if they migrate through the common duct, the condition of the duct must be improved to render their further entrance improbable.

In actual practice I recognize three distinct varieties, which may be and probably are, however, simply three separate stages of the same pathological condition.



First comes the class of cases that float from one physician to another, with the usual complaint of biliousness. A careful examination of these patients will reveal enlargement of the liver in proportion to the length of time they have suffered, tenderness, usually more pronounced in vicinity of gall bladder, due, no doubt, to the fact that more of the hepatic substance is affected by pressure at this point than any other, constipation, indigestion, and the many other symptoms following in the wake of inactivity of the hepatic cells.

In the second class you will find, in addition to the above, actual pain, sometimes dull aching, and again sharp and radiating, digestive disturbances more pronounced.

In the third class we find symptoms no longer characteristic of congestion, but of inflammation, and we diagnose hepatitis with cholecystitis; chills and fever develop, and the virulence of the infection often becomes so great that it no longer confines itself to the hepatic organ and ducts, but invades the peritoneal cavity, and our patient has progressed from a case of simple congestion to one of general peritonitis, when, even under the most skillful treatment, the chances for recovery are limited.

As a usual thing the first class of cases are treated symptomatically and given much less attention than they really deserve, for it is during this stage that our very best results are attained.

During the second stage a diagnosis of gall stones often proves correct, as they usually exist at this time and during the third stage, empyema of the gall bladder is very satisfactory.

The real cause of all the symptoms I am assured lies in the infection of the ducts with the bacillus coli, which finds its way into the minutest ramifications, causing a torpid condition of the hepatic cells, and consequently congestion.

The presence of non-obstructive gall stones I believe to be of minor importance.

In a purely private practice in a town of 50,000, where everybody does more or less surgery, you will realize the impossibility of reporting many cases to substantiate my claims. I have, however, a few cases and will report them briefly and comment on them as I pass.

Case No. 1.—Mrs. P., aged thirty, mother of five children.

Consulted me June 21, 1899; complained of dull, aching pain, practically all over liver, but tenderness was more pronounced in region of gall bladder; area of hepatic dullness increased about one-half, tongue coated, constipated, dizzy, especially in morning, not much appetite, no jaundice, and well nourished.

Gave indicated remedies for one week, seeing her daily, no improvement, operated on the 29th. Found bladder as large as a medium-sized pear, no adhesions, liver very dark and unhealthy looking, fixed bladder to abdominal wall and opened; it contained a dark fluid very much resembling black-strap molasses; found two or three calculi about the size of cherry pits.

Inserted glass drainage tube, first twenty-four hours dark fluid escaped in moderate quantities; at the end of thirty-six hours bile began to flow, and by the end of the second twenty-four hours was escaping in large amounts.

Recovery rapid and complete, no signs remaining to indicate that she had been sick except for a hernia which I was unfortunate enough to get.

As there was no jaundice or other evidence of obstruction in the duct, other than that caused by the inflammatory condition, and no history of hepatic colic, I attributed her condition directly to infection, and do not think that the presence of the calculi was in any way responsible for her symptoms.

Case No. 2.—Mrs. M., aged forty-two, June, 1900. History very much like case No. 1, with the exception that she had more vomiting, which was always accompanied by exacerbation of the hepatic pain, and she was always extremely nervous at this time, emesis green and bilious looking, no jaundice. As she was very fleshy it was difficult to outline the hepatic border. However, a diagnosis of congestion, due to infection, was made and operation advised, which was accepted, and bladder was found to contain a mucoid substance which was gritty to the touch, but did not contain any formation visible to the naked eye. The bladder was drained in the usual way, and recovery was both rapid and perfect, and for the last five years I know she has had no return of her former trouble.

Case No. 3.—Mrs. V., aged fifty-one. This woman was the most typical case of chronic biliousness that I had encoun-

tered at that time. Her history covered a period of twenty-five years, and during that time she always had a coated tongue, foul breath, constipation, dizzy spells, almost constant soreness in hepatic region, with attacks simulating those accompanying the passage of calculi through the common duct.

Repeated washings and sieving of the stool, however, failed to reveal any foreign substances until the last attack, which occurred on August 18, 1905, when she was taken with a severe pain, characteristic of the passage of calculi, and the following day a few sandy particles were found on washing the stool, but they were not very characteristic of gall stone formation to the naked eye, so were turned over for microscopical examination, but before report was received she was taken August 24th with violent chills, followed by temperature of 103. She was removed to hospital and operation performed the following morning.

Liver was found very large and bad color, gall bladder large and dark, containing 268 small stones varying in size from that of a millet seed to that of a cherry pit.

Contents removed, and bladder carefully wiped out with gauze, and rubber drainage inserted; no bile for first forty-eight hours, then it began to flow slowly and gradually increased until it was profuse.

Recovery uneventful and she remains well up to the present time. Am confident this woman should have been operated upon twenty years sooner.

Case No. 4.—Mrs. M., aged forty-six. Operation October 9, 1903.

This woman was brought in on the train suffering from what appeared to be an acute attack of hepatitis, with considerable involvement of the peritoneum.

Exploratory incision made, and gall bladder large and inflamed, was exposed with difficulty on account of adhesions, liver about twice normal size and mottled, very unhealthy in appearance.

Cholecystotomy revealed a few medium-sized stones, but none in common duct. On account of oozing, due to breaking up so many adhesions, it was deemed advisable to place a gauze drain into peritoneal cavity as well as tube in bladder.

Patient rallied from operation nicely, temperature dropped to normal, pulse steadied down to 85, drainage dark, thick,

gelatinous at first, later becoming lighter and finally bile flowed freely.

On the third day she was taken with heavy chill, and died on the ninth day. Autopsy showed that she died of pneumonia.

It was then learned that she had been brought from her country home to the nearest depot in a sleigh; that the train was two hours late, and that she remained this length of time in a deserted and fireless depot.

On autopsy the liver was found to have receded to almost its normal size, that the color of the surface was about normal, but the deeper parts were still in very bad condition, some few spots being so soft as to have the appearance of being about ready to break down.

Notwithstanding the fact that she died, I believe that she would have recovered from her infection had her exposure not precipitated the pulmonary complication.

Case No. 5.—Miss G., aged nineteen. Complained of pain in side covering pretty much all of the hepatic region and extending down over abdominal wall as far as McBurney's point, right rectus very rigid, making palpation difficult and unsatisfactory. Gave history of having had two previous attacks, one a year ago, which lasted three months, and another two years ago of about the same duration. In neither of the attacks did she develop chill or vomiting.

I saw her first about eight o'clock Thursday evening; temperature 94.6, pulse 88, respiration 20, at midnight temperature 100.6, Friday morning normal, 4 P.M. 101, midnight 97.

A chill occurred early Saturday morning and temperature went to 101.8; at noon down to 100; at midnight it was again 103.

The lowest temperature Sunday was 101, highest 102.8.

Monday morning it dropped to normal, and in the afternoon a chill, and it went to 103 again; another chill during Monday night, and Tuesday morning she went on operating table, with temperature 102.8 and pulse 90.

On opening abdomen we found peritonitis well diffused, gall bladder apparently empty, liver dark though not very large.

The gall bladder when opened contained a very small amount of liquid resembling serum, no bile.

Drainage tube inserted and patient returned to bed.

Serous discharge in moderate quantities for the first twelve hours, bile began to flow following morning, primary reaction good, temperature dropped to normal, pulse gradually increased, and as peritonitis progressed, patient grew weaker, and despite all efforts to sustain her, she passed away thirty-six hours after operation.

I was not permitted autopsy, but a careful examination of abdomen during operation failed to reveal any other cause for her chill and temperature, so I claim that the diagnosis was confirmed.

This is the one case I have to report where procrastination proved disastrous to the patient, for I feel that had I been permitted to operate early in the attack her life might have been spared; as it was, I found peritonitis so well developed that I did not give a very favorable prognosis.

On the other hand, this case might have had a more favorable termination if operation had not been resorted to at all, for there is a possibility that nature might have taken care of the infection this time, as it had done twice before, and numerous adhesions might have so walled off the peritoneal cavity in such a manner that a subsequent attack could have been handled with less danger.

This is all supposition, however, and did not appeal to me at the time as being the best way.

In conclusion I wish to predict that the time is rapidly approaching in the domain of surgery when we will be able to operate as early in cases presenting the symptoms of infection of the hepatic ducts as we now do in cases of appendicitis, and our clientèle will as readily accept the suggestion of drainage through cholecystotomy as they now do the operation for the removal of obstructing calculi.

The physician who allows a patient to progress to the point of pus formation in acute cases of appendicitis comes in for his due share of criticism, so will the same men a few years hence who allow their cases to drift along until calculi has obstructed the ductus communis or perforated into the surrounding tissue, making operation an imperative measure to save life, instead of a conservative method to preserve health and normal function.

## SURGERY OF THE PLACENTA.

BY C. E. FISHER, M.D.

## Tumors of the Placenta.

The placenta is subject to nobler pathology than that of moles—a pathology like unto that of various organs of the body. Two different types of tumors may be found within its structure—as elsewhere—the malignant and the benign.

These are so rare as almost to be curiosities in obstetric surgery. Yet they exist, and are deserving of consideration in this connection. Perhaps did we examine all placenta a greater number of neoplastic specimens would be encountered than the profession is now aware of. How few of us very carefully investigate the slippery mass!

Of the benign growths little need be said. They depend upon an overgrowth of retained decidual débris. The mole is characteristic, yet this “varmint” is hardly a myomatous tumor. The latter is more distinct, it is a part of the placenta, or a placental knuckle; it may attain the size of a child’s head and through the abdominal wall give the suggestion of twins, and in the expulsion of the afterbirth a secondary dilatation of the cervix and os is required and the pain of expulsion is inordinate. If of the placenta proper it is not likely to be adherent, but comes away from the uterine wall, if not from the uterine cavity, more readily than the decidual mole.

Of malignant growths, though even far more rare, there are a number. Fortunately, they are met with after parturition.

Two varieties are encountered, the epithelial and sarcomatous, depending upon the source from which they spring.

Naturally, epitheliomata of the placenta arise from the epithelial layer, sarcomata from the connective-tissue layer.

Evidently parts of these respective layers have not been completely cast off, but their nourishment has been continued, and they have continued to grow and develop into a hyperplasia that has become excessive.

Pathologists hold that in some instances the growth has arisen from a single layer of epithelial cells, while again it is claimed that Langhan’s cells are responsible. These tumors come from the fetal side of the placenta.

Sarcomata, on the other hand, arise from the connective-tissue layer, or external placental membrane. This is far more rare than the epithelial variety.

Various authors have classified or described the epitheliomatous growths as syncytiomata malignum, chorio-epithelioma, syncytical cancer, chorioma malignum, and carcinoma syncytiale.

The sarcomatous growth has been called malignant deciduoma, deciduo-sarcoma, sarcoma uteri deciduo-cellulare, chorion-cell sarcoma, and decidual-cell sarcoma.

For the minute pathology of these growths reference should be made to the latest works on pathology. It is neither possible nor practicable to enter upon its discussion at this time.

#### **Surgery of Malignant Placental Tumors.**

All surgery depends upon symptoms.

Malignancy naturally presents its symptoms malignantly.

Whether epitheliomata or sarcomata the evidence will be pretty much the same: Uterine enlargement, great pelvic pain, exceedingly foul discharges, profound anemia, severe debility, cachexia in late stages, metastatic manifestations—these are its picture.

Always look with suspicion upon rapid enlargement of the pelvic abdomen in a woman not doing well after confinement. The growth is rapid, the pallor comes on early, the vaginal discharges are sanguineous and irritating, the odor always penetratingly offensive.

If uncorrected the course of the disease is rapid and the metastases occur early, rendering interference useless.

Surgery is the only recourse.

To be of avail it must be prompt.

When metastases have occurred it is too late.

Four to six months is generally the limit of life in these rapidly developing malignancies of the placental coverings, and unless the condition can be correctly diagnosed in its earliest stage and remedied by thorough curettage, carbolic or iodine swabbing and general medication, nothing is left but complete extirpation of the uterus prior to metastasis to the groins, axillæ, mammæ, or vaginal glands. After that there is no hope.

### Cystic Degeneration of the Chorion.

Of the various surgical disorders to which the placenta is subject one of the most interesting is the hydatidiform proliferation of the chorion, which is characterized by the formation of endless quantities of cysts containing a clear or straw-colored fluid.

These cysts vary in size from little more than granular globules to the size of a walnut, and contain a liquid looking not unlike the liquor amnii. They form in bunches, upon a common pedicle, large numbers growing upon each main stem.

The epithelial layer seems first to be their site, but the connective-tissue layer also undergoes degeneration and the entire uterus may become enormously distended by great masses of cysts looking much like bunches of large, light-colored grapes.

Various authors describe several varieties, under the head of hydatidiform moles. But clinically their manifestations and course are the same:

Exceedingly rapid development, irregularity of uterine surface, general doughiness upon deep pressure, nodulations over various areas, irregular and intermitting hemorrhage, occasional escape of the vesicular bodies, are the clinical signs to be noted.

It is rare, however, that a diagnosis can be made until thrown-off cysts tell the tale. The mental suggestion is that of distention from twins, or perhaps from dropsy of the amnion. The occurrence of sanguinolent discharge from time to time is a hint that should be heeded, and examination of the fluid be made for the presence of the hydatidiform globules.

If the degeneration occurs early in pregnancy, as is general, the fetus perishes and abortion ensues.

If it does not set up until the pregnancy is well-established, the child may live and no unusual manifestations attract attention until the proliferated placenta is thrown off in labor.

Should excessive development characterize the case, there will be repeated and alarming hemorrhages, suggesting placenta previa.

In cases of this degree of severity digital examination may detect the grape-like bunches of vesicles, and guide the surgeon on his way. The diagnosis between a previous placenta and a



mass of cysts is not always easy, however, and sometimes impossible.

Unless surgical interference is resorted to there is grave danger to the subject from hemorrhage, either repeated metrorrhagias or violent hemorrhage at the time of labor.

Uteri whose placentæ suffer these proliferations are rarely healthy. The smaller villi penetrate deeply into the uterine substance, incite sharp muscular contractions, and soften the structure until its tonicity is impaired. It is from this inertia that the hemorrhage of labor is apt to be excessive and not easily controlled.

Once the condition is diagnosed, evacuation of the womb is the treatment.

This makes the case strictly surgical.

If possible, the patient should be transported to a hospital.

Anæsthesia, forcible dilatation of the os and cervix, and the most effective and effectual emptying of the uterus are required.

The ordinary happy-go-lucky induced parturition is not to be considered. Only the most correctly applied asepsis and the very best surgical measures are permissible.

Curretage, so often the savior in inter-uterine pathologies, is interdicted in this proliferation because of the including of the uterine muscle in the process.

The vesicles are not alone on the muscle—they are of it.

To curette would be but to deeply wound a structure whose integrity is already impaired.

The fingers and placental forceps will take the place of the curette, and the selected styptic, thorough wiping and moderate packing, when hemorrhage is disposed to continue, will finish the procedure.

Firm compression of the abdomen and the abdominal binder have a place in the management of these cases, and if ergot is ever permissible it is in the continued inertia incident to over-distention of the uterus from the former presence of large quantities of hydatidiform moles.

#### Various Disorders of the Placenta and Amnion.

The placenta suffers genuine inflammatory processes, abortion following, from septic infections, syphilis, exanthemata, and traumatism.

Surgical assistance may be required in any of these conditions consisting, as may readily be imagined, of intelligent interference and complete emptying of the uterus.

Again the curette comes into requisition.

The most serious of the affections of the structure is a general infection from incomplete efforts at criminal abortion. This takes on the nature of a general puerperal sepsis and demands the most radical procedures. The womb must be thoroughly emptied, no vestige of infected placenta being left behind, and the uterine cavity must be swabbed with Churchill's iodine, crude carbolic acid, or other very strong antiseptic and styptic, with repeated inter-uterine douches as long as the lochia is at all offensive.

Syphilis of the placenta is the most common cause of abortion, next to criminal means. Volumes have been written upon its pathology. The organ becomes studded with patches of syphilitic inflammation and a general hyperplasia of defined areas occurs, softening and gummata are found here and there, and the entire structure is abnormal in well-defined invasions.

Fortunately, the fetus perishes early.

Abortion is an almost invariable result.

The regulation post-abortion surgery is demanded, plus such anti-syphilitic treatment as may be required for the mother.

Many a young man who has sowed his wild oats in a syphilitic field has great crimes resting upon his offending head. Whether such subjects should be allowed to enter our homes and pollute our daughters with their vile diseases is a serious problem in social economics.

Like the membranes, the placenta may suffer various forms of degeneration, but these are of greater interest to the pathologist than to the practitioner and need not be included in this paper.

#### Placenta Previa.

Perhaps the one great danger to human life from the placenta that concerns us most of all is placenta previa, or malposition of the structure in the uterus during pregnancy, a condition fraught with grave possibilities and always a serious problem to the accoucheur.

Of classifications there are two, placenta prævia centralis, placenta prævia marginalis.

For the latter we also have the classification of placenta prævia lateralis.

It is enough to know that the placenta is implanted too low down in the uterus, so that as dilatation comes on, at any stage of pregnancy, the placenta being in the dilating area, is likely to be torn partly loose from its moorings and bleeding occurs.

Hemorrhage at any stage of pregnancy is suspicious.

It is almost invariably due to malposition of the placenta or to hydatidiform degeneration if intermittent or recurring.

Unfortunately, not till late in pregnancy is the accoucheur able, even if acquainted with and in touch with the patient, to diagnose the location of the after-birth.

More unfortunately, in general practice, the obstetrician rarely sees the parturient until her labor is on and a doctor is needed.

Hemorrhage is the diagnostician.

It tells what may be expected.

Its warning must be heeded.

To neglect it means disaster to mother and child.

The earlier in pregnancy the hemorrhage occurs the better the warning, and the more the opportunity to heed it.

#### *Surgery of Early Cases.*

The surgery of early cases of placenta previa is premature labor, properly performed, under the strictest surgical precautions.

Recurring hemorrhage will be the indication.

It is not required that the placenta shall be located.

If it can be, so much the better.

But in every case of pregnancy with intermitting hemorrhage occurring in the middle or later months, whether the loss of blood be considerable or inconsiderable, the wise man will empty the uterus.

The child is not to be considered.

A placenta previa baby has insignificant chances for life.

Not more than forty per cent. of previas go to term.

Of the children born alive but few are healthy and vigorous.

Better a saved mother than a baby in any state of vitality.

Far better a saved mother than a puny child.

Unless in a royal family in a monarchy, where great issues are involved in the life of the offspring, there should be no

hesitancy between sacrificing the child and saving the mother, at a time when the saving is easy and certain. And even under such conditions, from the highest moral and ethical standpoints the mother should not be endangered for the child's sake.

Nor is it permissible, in the light of compiled statistics, though all too often practiced, to too long postpone the induction of premature delivery in the hope of saving both lives.

It is toying with fate to nurse along a well-diagnosed previa to a moment of more certain viability of the fetus.

With the diagnosis should come the action.

The premature labor of placenta previa is somewhat of a different proposition from the same operation for other cause.

Here there confronts the operator, at whatever stage, the grave danger of a destructive hemorrhage, which at any moment in the procedure may pass beyond his control.

It should always be performed, therefore, with ample assistance, under the strictest precautions of every sort, and with every known means at hand for estopping the crimson current.

No matter what the distance, in elective cases, the patient should always be transported to a hospital. In emergency cases this is rarely possible or permissible.

Not less than two assistants will be required, and better is it to have three.

One should look after the anæsthesia and the associated restoratives, a second should be on the alert to assist the operator in whatever way he may require, and a third may well be present to resort to saline infusion if the hemorrhage be alarming.

Dilatation of the cervix should be accomplished slowly.

To hurry it to the point of laceration means to increase the danger of loss of blood. This is so in normal cases, very much more so where the placenta is implanted so low that as the cervix is dilated the placenta is separated.

Proceed cautiously, with fingers rather than with instruments; feel the way carefully, and thus be ready to meet whatever condition may confront you.

If the os be very rigid, not likely to be the case, several hours may be required to accomplish the necessary dilatation, and meanwhile the operator's fingers may become so fatigued that his assistant may have to take his place for a time.

Should sharp flooding mark the procedure, it may become

necessary to pack the cervix and lower part of the uterus with sterile gauze packing, soaked in sterile styptic, as an intermediary measure. Should packing be resorted to it should be adjusted firmly but not with sufficient force to further separate the bleeding placenta.

Under the safeguard of packing, both uterine and vaginal, properly applied, a moderate degree of hemorrhage accumulating within the uterus is not inadmissible, since its presence assists in softening the cervix from within outward and facilitates the process.

But the symptoms of internal hemorrhage must be carefully noted and the operator be ready to act upon the slightest warning. Syncope must be most carefully guarded against.

Better than cervical packing will it be, in early cases, to try and bring down a foot within the cervix, to act as a closure, the buttock being dragged well into the canal. In this procedure firm traction should be continued upon the presenting part in order to block the hemorrhage effectually.

If the head be at the doorway and the placental attachment be marginal in type, the latter may be pushed back with two or three fingers and by the Credé method of expression the fetus may be driven down against the cervix and be held there until dilatation shall have followed.

The slogan is to watch every feature of the case.

In central implantation the safe method is to insinuate the fingers and perform a Braxton Hicks' polar version.

This should be accomplished, if possible, prior to the rupture of the membranes, and at the psychological moment these should be broken and the foot or feet be brought down as quickly as possible and as far as possible into the cervical canal.

Continuous traction upon the fetus must be practiced to make the tamponade effective. This may be accomplished by the operator and his assistant taking turns, or a gauze bandage may be tied around the ankles and a weight beyond the footboard serve the purpose.

This latter, however, concedes the use of a bed for the purposes of the operation. Whereas, a placenta previa woman should never be confined in bed, at any stage of her pregnancy, but always upon a table, before good light, where the operator and his assistants may see and know to the best advantage exactly what they may have to do and are doing.

Perhaps a high hospital bed with a firm support for the patient on the mattress will answer, but none other can.

Deal slowly with the case, once the hemorrhage is checked by the buttocks of the fetus. To rush the delivery may mean extensive laceration of the cervix and a tearing into the placental field. It may also be the cause of embolism and death. Furthermore, a rapid delivery is more likely to be followed by subsequent hemorrhage.

Give the womb time to do its own expelling, if possible.

By this means it will get up better contractions and be more likely to control its own outpour.

Be ready to tamponade, and to tamponade plentifully, not merely to blockade the vagina so you cannot see what is going on within, but to tamponade the uterus and birth-canal to the utmost.

This necessitates the table instead of the bed.

See what you are doing, and how you are doing it.

T'is no place for a blind man, nor for the legendary ostrich with its head in the sand.

The woman's life, all, everything, depends upon seeing and doing, and that intelligently.

With the checking of the hemorrhage by the child acting as the ball-valve there will be a breathing spell.

Then the labor is likely to pursue the normal course from this on until the child shall have been expelled.

The next serious danger now confronts the surgeon. Unless the womb contracts upon the placenta immediately, there will be a crimson flood of alarming quantity.

The womb must be emptied of the placenta with all possible haste and firm contractions must be secured by abdominal manipulations, friction, and other means. Ergot has been much vaunted, and has doubtless rendered excellent service in extremis. The trouble is that it has dangers of its own, as hour-glass contraction, retained débris, secondary relaxation with inability to again contract, and the possibility of embolic clots.

Naturally, there is greater danger of post-placental delivery hemorrhage than in normal labor. Therefore the operator's vigilance can never be suspended or relaxed until the womb is thoroughly emptied and completely contracted.

Placenta Previa at Term.

All that has been said in relation to premature delivery for placenta previa applies with double force to the management of the condition at term.

Unfortunate indeed is the practitioner who sees his parturient patient for the first time in an active flooding, especially if the implantation be central. In the marginal variety the accoucheur with his wits may quickly force the presenting placental edge back into the cavity and press the fetus down to take its place. Nevertheless, even in this most favorable site of the danger it will require his best efforts and most intelligent action to control the situation.

With a central implantation, and the dilatation of labor tearing the placenta loose all around, he will be fortunate indeed who succeeds in guiding the case safely into the harbor of delivery without loss of life.

If the placental structure is too firmly attached for it to be pushed to one side as by the Braxton Hicks' method of bi-manual version he brings the pedal pole into the cervix, it may become necessary for him to plunge the funneled hand directly through the mass and grasp the fetus firmly so as to engage it within the rent. Meanwhile the blood will be streaming down his forearm in hot gushes and the woman will be becoming quickly exsanguinated. Beyond question it is the most alarming and critical of all the complexities of dystocia, not excepting uremic convulsions. In the latter, though any convulsion may terminate life, as a rule the element of time enters into the case. Not so with the flooding of placenta previa. The flow must be checked, else in less time than it takes to tell it the woman's life will have paid the forfeit.

Intra-uterine bags and plugs have not been considered.

They are rarely if ever at hand, except in hospital cases, and too often not then.

The accoucheur must rely upon himself.

There is no time to call assistance.

The hand must do the work.

The placenta must be brushed aside or torn through.

The baby must be made the plug to stop the bleeding.

To get it there is the problem to be solved.

Again, quick-thinking and quick-acting are required.

To pack is to lose out. No tamponade will do here.

To medicate is to lose time.

Get the baby into the cervix and then breathe.

Next, get it delivered, gradually, so as to preserve the continuity of the tissues, and then don't breathe but take care of the after-birth.

This secured, and delivered promptly, devote entire attention to securing contraction of the uterus, when you may breathe again, this time freely.

### Cæsarean Section.

Various authors and operators have recommended and practiced Cæsarean section and Porro's operation in selected cases of placenta prævia centralis, where it has been greatly desired to save the child, but with questionable success.

Selected cases imply premature delivery.

Premature delivery implies lessened chances for the child.

Cæsarean section, even under strict asepsis, is not altogether free from danger.

It is never a minor operation.

In a large list of cases the deaths from placenta previa have been 13.4 per cent., the fetal mortality 80.5 per cent.

Cæsarean section has not a lower mortality, whereas the ratio for children in premature cases is not less than that quoted.

Nevertheless, in well-chosen cases, under the best hospital care, in the hands of a master, it may be that it is worth the while to bide the time until after the seventh month and then, if neither mother nor child shall have suffered decreases in vitality from continuous or alarming hemorrhages, to resort to the classical operation or Porro's modification of it, with respect to the life of the child particularly.

The mother's chances are accounted better under Porro's operation, since it contemplated strangulation or constriction of the cervix and the excision of the uterus. The placental site in centralis being directly across the internal os, the bleeding field is thus constructively cared for.

For the details of these operations, with special reference to the care of the placenta, of the prime importance in the previas, it is necessary to consult the text-books upon operative



technic. It is sufficient for the purpose of this paper to give it passing consideration in connection with the surgery of the placenta in general.



## THE ANTE- AND POST-OPERATIVE TREATMENT OF ABDOMINAL CASES.\*

BY C. KNOX SHAW, M.D.

Not long since a discussion occurred in the correspondence columns of the *British Medical Journal* as to who was responsible for the after-treatment of operation cases—the general practitioner or the operating surgeon. It seemed to be the feeling of some that the family medical attendant was quite competent to undertake this, and that he, to some extent, lost his patient if he were entirely handed over to the surgeon. The surgeons pointed out that success depended sometimes as much on the after-treatment as upon the operation itself, and that an error of judgment might prove disastrous to the patient and thus to the reputation of the surgeon. I think that this applies more particularly to abdominal operations than to any other, and I am inclined to think that here, at any rate, the operating surgeon should have a guiding hand.

Within the last few years a great change has come over the treatment of abdominal operations, and it is with a view of bringing before your notice some of the important advances that have been made that I am venturing to make a few short, and what I trust will prove to be practical, observations to you. I can now look back upon thirty years of constant and intimate association with operative surgery, and it is interesting to have watched the gradual evolution of modern surgical procedure in abdominal work. In my house surgeon days we thought we had done well to save three out of four ovariectomies; now we feel we have done badly if we lose three out of a hundred normal cases.

In abdominal diseases requiring surgical treatment we meet with two distinct forms, the chronic and the acute, and it is necessary to differentiate these in some measure as they re-

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quire a somewhat different procedure. In chronic cases, such as appendicectomy during the quiescent period, ovariectomy, gastro-enterostomy for pyloric obstruction, etc., we have time to make our preparations deliberately, and I propose to deal with the treatment of this class of case first.

No operation of any magnitude should ever be undertaken without a careful routine examination of the urine; especially is this so in operations involving the peritoneal cavity. In cases where a prolonged and extensive operation is contemplated it is well, in addition to the usual examination, to see whether the excretion of urea is about the normal, the normal being 2.3 per cent. In this paper I purport giving what is usually done in my own cases; others may have different ways, as good—perhaps better—but I want to tell you what I have found to be practical and successful.

Having decided that an operation is necessary and advisable, and the general condition of the patient being satisfactory, I do not spend much time in preparation, but in gastric cases especially the condition of the mouth should be inquired into and any sepsis removed. A day or two of rest in bed is always advisable before the operation, and during this period light and easily digested food in reasonable quantity should only be given. The question of an aperient is one of importance. I do not believe in what is called a smart laxative, but usually find out what aperient the patient has been in the habit of taking. If the patient has been an habitual homeopath this is not easy, for they generally need none. Supposing there to be no particular choice a 10-grain powder of calomel  $\text{ix}$  can be given two nights before the operation, followed by an enema the next morning and another enema the morning of the operation, if the operation is in the afternoon, or the night before if the operation is to be done early the following morning. This means that the patient is not upset just prior to the operation. The skin of the patient is shaved and prepared in the usual way, washing and gently scrubbing with soap and water for some time; then a compress of biniodide of mercury ( $\text{i}$  in 2,000); then the application of soap, spirit, or ether, and a final wash with biniodide spirit before putting on the final compress, which is not removed until the operation is about to commence. If the nurse uses a little tact this part of the preparation need not distress or frighten the patient.

The patient should come into the operating room well clothed, the limbs and chest being enveloped in cotton wool. Except under quite unusual circumstances it is not my practice to give my patients any medicine, such as arnica, before the operation. If all goes well in a simple, straightforward laparotomy, such as for recurrent appendicitis, it is not unusual for the patient to come into and leave the hospital without having had to take any medicine.

The operation over, the patient is placed in bed lying flat on the back with a pillow under the knees, until the effect of the anesthetic has passed off. Then the patient is carefully propped up with pillows, this being a much more comfortable position than the old one of keeping the patient lying flat. I make no objection to the nurse carefully moving the patient from side to side if it is desired; for many years we have done away with the glass drainage tube, but it has taken us as long to do away with the absolute rest the use of the tube involved. If the patient is restless, sleepless and in pain, I find belladonna 3x invaluable. I probably use this remedy more frequently after operation than any other, and in a great number of cases it is the only medicine needed. If there is slight shock or the patient seems anxious and complains of thirst, a rectal injection of  $\frac{1}{2}$  pint of normal saline solution is given. This injection may be repeated every three or four hours.

Another great improvement in the after-treatment of these cases is the withdrawal of the prohibition of fluid by the mouth. It used to be most distressing to see the suffering caused by thirst after a severe operation. Now as soon as the immediate anesthetic vomiting is over I allow water, hot or cold, to be given in spoonfuls, and then a good drink is allowed, either of water, soda water, or thin barley water; a cup of weak tea is also much appreciated. After the first twenty four hours, milk, broth, jelly, or custard can be given in reasonable quantities. The day after the operation I like an enema given, but no aperient by the mouth; in fact, I find it most exceptional for the patient to need an aperient. If flatus is not passing freely a small tablespoonful of turpentine should be added to the enema, or the passage of a rectal tube will relieve the patient. In the old days of perineal lithotomy, a great Edinburgh lithotomist, when going round his wards, used to ask his dressers: "Does he wet well?" saying

that if there was a free discharge of urine on the dressings the case was doing well. I feel much the same after abdominal operations with regard to the free passage of flatus *per anum*, and were it not that the old Anglo-Saxon word has quite gone out of fashion I should always ask my house surgeon: "Does the patient fart well?" for I look upon the free passage of flatus as one of the best signs of the satisfactory progress of abdominal cases.

Fortunately we now rarely see that most dreaded complication of abdominal operations, peritonitis. The absence of the passage of flatus *per anum*, a quickening pulse, and a declining temperature are ominous signs, and need the institution of active treatment. Every effort must be made to get the bowels to act, and 10-grain doses of calomel *ix* should supplement the enemata, and if the desired result is obtained the cases, usually do well. As remedies I have found belladonna, mercurius cor., bryonia, and colocynth the most useful. But should the peritonitis become acute I would then institute the method of treatment to which I shall refer in the second part of this paper.

The stitches are usually removed on the eighth day, and the patient allowed on the couch then, or even a day or two earlier if the case has done well. We have been inclined, I am sure, to keep our patients too strictly quiet and too long in bed after simple abdominal operations; but as the result of having too many patients and too few beds in the hospital to take them, we are learning really in what a short space of time we can often get a normal case in and out of the ward. Dr. Neatby has so successfully shown us what can be done in this way at the London Hospital that it is said of him that it will not be long before he is doing his hysterectomies in his out-patient room. Sir William Bennett learned, accidentally as it were, from one of his cases the advantage of allowing fluids after operation. I learned what it is possible for a patient to do after an operation from the following case. Just two years ago a sailor on a tramp steamer was admitted into my ward with a fecal fistula of some months' standing, the result of a perforating wound of the abdomen. I excised the fistula, resected some 6 in. of the ileum, and performed an end-to-end anastomosis by simple suturing. On the night of the operation he became very excited, and, getting out of the

control of the nurse, got out of bed and wanted to go home. In spite of everything, except forcible restraint, which was thought to be inadvisable owing to his struggles, he could not be kept in bed. At this point I had to leave him as I was going out of town. After two days of attempts at pacification, and expecting every moment to find signs of the anastomosis giving way, the brilliant thought occurred to Dr. Ham and the matron to find out what the man really wanted or would like. He asked to be allowed to sit in a chair, have some beer, and smoke his pipe. He was permitted to do all this, and when I returned to the ward at the end of a week I found him doing exceedingly well, and he made an excellent recovery.

But we are not always so fortunate as to have time or opportunity to carefully prepare our patients or to have simple straightforward cases to operate on. Gastric and duodenal ulcers perforate, appendices rupture, intestines strangulate, when we have to do a rapid and immediate operation to save life. In these cases we have not only the local lesion to deal with, but the consequent shock, and in most cases the peritonitis. We must therefore make such preparations, on the lines which I have already indicated, as time allows for, and if the condition of the patient is critical, combat the shock by rectal infusion or intravenous transfusion of normal saline solution. A patient that seems apparently moribund will sometimes rally sufficiently after a few pints of normal saline have been transfused to allow of a rapid operation being performed with some prospect of success. If no decided reaction follows an intravenous transfusion it may be considered that it is unwise to attempt any operation. In a recent desperately bad case of perforating gastric ulcer admitted to the Phillips Hospital, Dr. Wynne Thomas kept up continuous intravenous transfusion all the while I was operating, and enabled the operation to be completed. Unfortunately, owing to the great severity of the case the patient died nine or ten hours later, but without the transfusion she must have died on the table.

It is in the surgical treatment of cases of diffuse septic peritonitis that the greatest strides have recently been made, and surgery owes a great debt to the late Dr. Murphy, of Chicago, for what he has done in this direction. Till quite recently a

mortality of 80 per cent. was accepted as the normal death-rate of acute septic peritonitis, and it was only about three years ago that Dr. Murphy startled the surgical world by stating, and demonstrating, that he had reduced the mortality of his cases to 10 per cent. Now it is obvious that any method holding out such a prospect as this needs our most serious attention.

Peritonitis is Nature's reaction against the invasion of micro-organisms, and as a protection for inhibiting the absorption of toxins she covers the intestines with lymph, danger lying in the absorption of toxins from the peritoneal cavity.

Murphy therefore advocated the gentlest possible handling of the peritoneum during operation, so as to avoid disturbing this protecting lymph. To do this the cause of the peritonitis must be sought for rapidly and with a minimum of disturbance of the parts; therefore there must be no mopping out of the fluid with sponges, no evisceration, no intra-peritoneal flushing out with fluids, antiseptic or sterilized. The peritoneal cavity should be opened as far as possible over the site of the suspected lesion, and when practicable that should be dealt with.

If there is much intestinal distension, I am sure it is better, as was originally suggested by Sir Frederick Treves, to bring the distended loop or loops outside the wound, open them, catch the contents in a porringer, and then close the loops, than to try and work amongst the distended intestinal coils. When we have done what we can for the original cause, the wound is not entirely closed, but split rubber tube drains with gauze wicks should be passed deeply in. An incision is next made above the pubes and a similar drain passed down to lowest part of the pelvis. If it is found that there is much purulent fluid in one or both flanks, drainage should be instituted in this region.

In 1900, Dr. Fowler, of Brooklyn, advocated what he called the postural post-operative treatment of diffuse septic peritonitis. He and others had shown that septic absorption takes place more rapidly from the diaphragmatic peritoneum than from any other area, and that absorption was least in the pelvic peritoneum. He therefore recommended that the head and trunk be well raised in bed, and that the patient be placed practically in a semi-sitting posture, the intention being to

limit the spread of infection by the gravitation of the infected fluids to the cavity of the pelvis, from which it can be removed by drainage. Those who adopted this found an immediate lessening of mortality. Murphy carried this further, and put the patient in the sitting posture during the operation, thereby freeing the diaphragm.

But what I consider the most important suggestion of Murphy's was to secure the absorption of large quantities of normal saline solution through the rectum, which reverses the current in the lymphatics of the peritoneum, making the surface of that membrane a secreting instead of an absorbing one, thus preventing the absorption of septic products; aided by the posture of the patient and the action of the diaphragm, the fluid gravitates to the pelvis, where it is removed by the drain. Further, the absorption of the fluid from the rectum stimulates the heart and markedly increases the secretion of urine, which in diffuse septic peritonitis is always diminished.

The semi-sitting posture is now known as the Fowler position, and the continuous rectal infusion as the Murphy method.

The day after I had written the foregoing lines I was summoned to see a case of appendicitis with Dr. Grace, and as it so well illustrates the points I wish to emphasize and the procedure I am recommending should be adopted in these cases, I cannot do better than describe it. It was a curious coincidence that before starting I had to see a patient in the south of London with what we believe to have been her thirty-second attack of recurrent appendicitis. Though the attack was sharp, the worst she had ever had, the peritonitis was local, and under the care of Dr. Hey she recovered nicely. At the end of a fortnight she was removed to a nursing home; and with ample time to carry out the suggestions made in the first part of this paper, she was operated on, and an appendix, buried fast in dense adhesions, removed. Her bowels were moved the next day, she was allowed fluids freely, was moved from side to side as she desired, and was put in the semi-sitting posture at once, began solid food on the third day, was on the couch on the sixth, and the stitches were removed on the eighth. She had no increase of pulse-rate nor rise of temperature; the only medicine she took was a few doses of belladonna 3 during the first night. The case therefore ran a perfectly normal course.

Dr. Grace's case was of the other variety. A widow lady, aged fifty, having had right iliac pain and discomfort for two days, took on her own initiative an aperient, which was followed by an action of the bowels, but with an increase in the pain and discomfort. The following day she sent for Dr. Grace, who found her suffering from acute appendicitis, with a suspicion of general peritonitis. Next day this suspicion became confirmed, and he asked me to come and see her with a view to operation. At the first glance one could see the patient was very ill, and examination showed the classical signs of general peritonitis, including rapid pulse, rigid and tympanitic abdomen. The patient was in so much pain and distress that she readily consented to an immediate operation. On opening the abdomen by an oblique incision over the seat of the appendix, pus free in the abdominal cavity escaped, which anyone who has had to do with cases of this kind knows to be a very ominous sign. On introducing the finger more pus welled up from the right iliac fossa. As the appendix was not readily found no prolonged search was made for it, but two rubber drainage-tubes were split, a wick of sterilized gauze put into them, and these were passed well into the right iliac fossa. A second incision was made just above the pubes and another wick drain was inserted through it to the floor of the pelvis.

The wounds were not closed, but ample dressings applied. The patient was put back to bed in a semi-sitting posture. An ordinary douche can was tied to the foot of the bed, raised only a few inches above the level of the patient's pelvis. The tubing was passed up between the patient's legs, and an attached nozzle passed into the rectum. The can was kept filled with warm normal saline solution. The object in view was to allow the solution to trickle slowly into the rectum, and to be absorbed there. If the flow is too free by reason of the vessel being too high, the patient will not retain the fluid and it will escape into the bed. The nurse received instructions to keep the fluid in the can warm by wrapping it in flannel, and as the contents diminished to frequently add fresh saline. The saline was commenced at 11.30 at night. The patient was seen next morning at 7.30, and it was most gratifying to see the very marked improvement. The anxious look was gone, the pulse had come down, the pain was insignificant, and the



dressings were wet with the saline fluid which had passed into the peritoneal cavity and then been absorbed by the gauze drains. During the night she had absorbed over 3 pints of saline. Dr. Grace tells me that the patient is making a good recovery, though three weeks after the operation the abdominal wounds are not quite closed.

It is important to see that the fluid sinks in the vessel by absorption only. If it gives rise to distress and the desire for an evacuation of the bowels, the vessel is at too high a level. Sometimes the patient cannot bear the rectal tube, as we found in an old woman who was admitted to the London Hospital last December with acute septic peritonitis due to perforation of the descending colon from malignant disease. Here we found both feces and pus in the peritoneal cavity. She was colotomized and drained. As she did not seem able to retain any of the rectal saline, our house surgeon, Dr. Purdom, passed under the breast a Southey's trocar, carrying a rubber tube from this to a glass measure filled with normal saline, and by siphonage kept up continuous intercellular transfusion, the patient absorbing by this method about 8 pints of fluid in the twenty-four hours. She actually recovered from the peritonitis, but died from exhaustion three weeks after the colotomy.

On another occasion we attached a small glass funnel to the trocar and tube and kept up transfusion under the breast by that means.



## MEDICAL GYNECOLOGY.\*

BY EDWIN A. NEATBY, M.D.

Acting on a suggestion from your Secretary, I have prepared a medical paper in preference to a surgical one. In the early years homeopathy won many laurels in the treatment of diseases of women. If its results are now relatively less striking, it is because so much of gynecology, in the modern sense of the term, belongs to the domain of surgery. Nevertheless, quite a large proportion of the cases coming to the specialist in diseases of women are really medical, that is to say, though one or two local symptoms may point to the reproductive sphere, the fault is frequently a general one. Perhaps one of the most important duties of the gynecologist is to divide the cases coming to him, and, in the medical ones, promptly to forget that he is a specialist, and take up the rôle of physician.

A few cases, not too rigidly classified, will best illustrate the point, sufficiently elementary I grant you, which I have in my mind.

Let us take some examples where pain is prominent. A girl, aged seventeen, was brought to me on January 27, 1896, for profuse, premature and painful menstruation. No abnormality was discovered by external abdominal or by rectal examination. I gave her *xanthoxylum* 1x, and she was relieved; so far so good; but why did this young girl have these discomforts attending a physiological function without obvious local cause? It is hard to answer this simple question scientifically, and I will only try to do so in a roundabout way. What else was the child suffering from? She said she had "dyspepsia," which, being interpreted, meant in her case "pain in the epigastrium and chest, worse half an hour after evening dinner and after drinking tea"; the pain extended through to the dorsal region. The appetite was good, the bowels constipated, she had threadworms, the tongue was coated brown; she used to have "sand" in the urine. Next she complained of throbbing headaches, worse in the evening, better in the open air; these she attributed to her "dyspepsia." Her heart

\* British Homeopathic Society.

was healthy, but she had cold, damp hands and feet, without chilblains. There were a few more details in the pelvic sphere. The menstrual pain began a week before, was severe for the first two days and returned the last day or two of the period, which lasted six days; she had profuse, bland leucorrhea, worse before each period.

The xanthoxylum, as I said, relieved, but it did not prevent. What was the matter with the girl? A pathological theory may be invented, which would say that her faulty digestion caused the retention of uric acid or other purins, or of auto-toxins, of the nature of which we are even less informed. Or we may say the same thing in other words—that her chemistry had gone wrong, that her metabolism was faulty. Perhaps, ten years later, we should have examined her blood and found its coagulability was deficient, the hemoglobin lessened, the differential leucocytic ratio disturbed. Whether such investigations can be carried out depends on the age we live in; whether theories deduced from them are helpful or not depends on the accuracy of the so-called facts and still more of the deduced theories. Such theories may give us real help in the general hygienic treatment of the whole class of such-like cases. But while our knowledge of drug pathogenesis of a scientific character remains so rudimentary, so far behind even our knowledge of the pathology of disease conditions, they will help us little in drug selection—especially in individualization. For this we are still dependent on symptomatic indications. My first general or constitutional prescription was calc. carb. 30, night and morning. This she took until March 20 (with xanthoxylum at the periods).

At this stage the excess had ceased, the pain was less and there had been no attack of "dyspepsia." But the bowels were still constipated, the tongue coated at the back, and there had been an urticarial rash on the hands and legs. The next prescription was nux vom. 30, night and morning. In May the report was: Constipation very bad, painful defecation from hard, large stools; periods still too frequent, pain only slight three to four days before, and badly several hours at onset, but less severe than formerly. Headache better. I think it probable that nux was a faulty prescription, the kind of constipation and the kind of headache not seeming to indicate nux, as far as one can judge by imperfect notes. But I was prob-

ably quite as well aware twelve years ago of the indications for *nux vom.* as I am now, and there may have been elements in the case present to my mind at the time, but absent from the notes. The last prescription was sulph. 30, night and morning, and the last visit June 5. The last period was moderate in quantity, nearly correct to time; there was no pain preceding it, that at the commencement was slight and was relieved at once by *xanthoxylum*. The headaches had been eliminated by a pair of spectacles; the constipation was very much better and less painful. Her general condition seemed much better; the hands and feet were warm and dry. For the warmth of the extremities June may have been responsible; for the dryness I give the credit to the treatment. I gave her *saccharum lactis*, and *xanthoxylum* for pain, telling her to come back if the improvement did not last; she did not come again, as a patient, but I know that she kept well, and I believe did not receive or require further treatment.

Miss X., aged thirty, the superintendent of a rescue home, consulted me in January, 1904, for dysmenorrhea. The pain was in the left iliac and lumbo-sacral regions, began twelve to twenty-four hours before the period, and was at its height on the second day. Uterus and ovaries normal, except slight tenderness of the former. She had headaches, with heat of face and scalp, and her feet were cold; pulse 94 and palpitation; always felt worn out; nights were much disturbed by her duties; she slept badly even when not disturbed, and started much in sleep. The bowels were constipated.

In this case there was no displacement and no evidence of inflammation or of spasm. The pain meant—not that her pelvic viscera were diseased or even disordered, not more, at least, than the rest of her tissues and organs, and perhaps less than her nerve tissue. Her afferent nerves and her receptive centers were hyperesthetic. Just what determined the location of her pain is not easy to say.

During five months of treatment she received *actea* 3x; *sulphur* 30, *ignatia* 1x, *natrum mur.* 6x, *arsenicum alb.* 6x.

At the end of that time she was better in all respects, and described herself as quite well. The menstrual pain was a negligible quantity, and the flow was less scanty than formerly. I thought her slightly anemic, and in fact a year later she returned with pallor of skin and mucous membranes,

breathlessness, hemic bruits, spasm-menorrhea, aching of back in the sacral region, crying fits and hallucinations on awaking. There was free leucorrhea, but no abnormal physical signs in the pelvis. I considered her anemic and neurasthenic, and prescribed puls. 1x and crude ferrum redact., together with the application of purple arc light to back and abdomen. In six weeks she seemed quite well, and I have heard from her from time to time during the past two years and three-quarters, when she told me how well she felt. The patient came, it may be remembered, for dysmenorrhea; had she come for gastralgia, pleurodynia, or facial neuralgia the illness would have been practically the same, though the choice of remedies might have been different.

The next case is somewhat otherwise. A young married lady had been confined six months before she came from Manchester to consult me in January, 1896. She said "something was left behind" at the accouchement, and she had had "floodings" at her periods afterwards. She had only been able to nurse six weeks. She had dull sacral pain at the periods, free yellow discharge becoming brown and acrid before the periods. She was losing flesh, and had more or less constant headaches.

Some years previously she was said to have "internal congestion," "shattered nerves," etc., and it was feared she would go out of her mind. Here was a pronounced neurotic (neurasthenic) woman. Besides this she had the following physical signs: The uterus was drawn to the left, low in the pelvis, of lessened mobility and retroflexed; the ovaries were prolapsed, both tubes felt thick but not tender. Here was a case, apparently, of mild puerperal infection. It had left the pelvic organs somewhat damaged, but the *morale* and nerve tone more so. I have known cases with slighter complaints of pain and fewer physical signs handed over to the surgeon. The question arose, Shall we treat the case medically or surgically? I regarded it as one of old perimetritic inflammation, in which Nature had practically effected a cure. The parts were still sensitive, as any scar tissue is apt to be. The uterus was not fixed, though its mobility was lessened. I decided to treat the case medicinally, with only some local tampons, mostly as a mental solatium. I gave a long course of pal-ladium 3x. Her headache disappeared, the backache and menorrhagia did likewise. Ignatia completed the treatment.

When I last heard from her she had had another child. Whether the retroflexion ever got better, either before or after the next baby, I do not know, and I do not think the patient cared.

My indications for palladium are: A neurasthenic condition in which the patient keeps up brightly when in company and is much exhausted afterwards, when all the pains are aggravated; subacute pelvic peritonitis, with right-sided pain and backache or bearing down. These pains are relieved by pressure. Sometimes a pain is described as extending from the umbilicus to the breasts. There are menorrhagia, xanthorrhoea, and vertical headache.

W. E., a single woman, aged twenty-nine, came to see me on June 14, 1903, for leucorrhoea of six months' duration, accompanied with dragging pain in the left side of the abdomen and swelling, *i. e.*, distention of the same. The thick white discharge came on gradually, was attributed to an injury to her side, was worse in the afternoon and evening, and caused some soreness and irritation; worse at night. The menstrual flow was scanty, and accompanied by bearing down in the hypogastrium and vagina. She suffered from some epigastric pain after food, coated tongue, and flatulence.

Physical examination showed redness and tenderness of vulva and lower part of vagina. The uterus was small, retroverted and retroflexed, and tender.

She was directed to sit in hot water every night, to use a hydrastis suppository every second night, and to take lycopodium. These measures were followed by improvement in the xanthorrhoea, the vulvar and the hypogastric tenderness and swelling, and the constipation. The epigastric pain and pelvic dragging were no better, and she had also occasional vomiting, thirst for frequent sips, dry mouth, flatulence, and sour risings. In short, the pelvic symptoms, except the dragging, were ameliorated or cured. Iodide of arsenic 3x was ordered, and was followed by relief to the gastric symptoms, but the dragging had not improved. The uterus was therefore replaced and a small Hodge pessary was inserted; the *ars. iod.* was repeated. A return of leucorrhoea, constipation, cold, damp hands and feet was met by *sepia 12*. She was able to do without the pessary after a few months, and, with the exception of one short interval the following year, remained well.

This case is given as an instance of the useful co-operation of local and general treatment. The pessary, in my judgment, hastened the recovery, and facilitated the action of the curative remedies by removing a mechanical obstacle to the uterine circulation.

Let us take another pain case—apparently spasmodic dysmenorrhea in a fair, plump, amiable girl, aged fourteen years and eight months. This patient had very good general health; she had cold feet like the last patient, but dry instead of damp. She had no “dyspepsia,” no constipation or headaches, very slight leucorrhea. She had pneumonia when aged eight, and pain in the right iliac region, called peritonitis, when aged six. The periods were moderate in quantity, and a week or ten days too soon. The order of events at the period was:

(1) Premonitory look of pain on the face; her fair complexion looks yellowish; she looks dark and sunken.

(2) Pain in the right iliac region, coming in paroxysms, not relieved by hot bottles or mustard poultices.

(3) Nausea and vomiting, worse from liquids. The vomiting occurs several times, and is followed by relief for a short time.

(4) Face flushes; gray or white area round lips and eyes; pupils dilated.

(5) Restlessness; drawing up of legs; lies with arms above head.

(6) Frequent desire to micturate.

In vain I treated period after period—*chamomilla*, *nux vomica*, *belladonna* and many others; then I descended to *gelsemium*  $\phi$ , and was wrath because *nux* (in particular) from the homeopathic side and *gelsemium* from the antipathic side had failed me. Then I reached the lowest depths in prescribing—and was not ashamed. A morphia suppository came to my rescue, and I was thankful for this great gift of the gods in my extremity. It is sometimes a comfort to remember that one's duty is to be first, a physician (or surgeon as the case may be), and then after (if at all), a “homeopath.”

Though grateful to opium and, as I said, not ashamed, I was not exactly proud! All this time—because I did not like to examine a girl aged fourteen and a half—I had treated her in the dark. I now made a rectal examination. The uterus was low in the pelvis, completely retroverted, and the ovaries

very readily felt, one on each side of the fundus, on the floor of Douglas's pouch. With the patient in the genu-pectoral position I pushed the uterus forward on two or three occasions, kept her off her back when lying, had a course of physical exercises carried out, and one fine day it stayed forward and the pain passed away.

In November, 1898, a sensitive girl of twenty consulted me for pain at the period. The pain came on with the flow, gradually at first and then in paroxysms—very severe and said to last nearly half an hour. It is surprising how long the minutes seem when one is racked with pain! The spasms of pain seated at the navel are typical: she is restless, rolls about, retches, and gradually gets better. The pain lasts from a few hours to a whole day. The pain is not relieved by heat or lying down, but is from brandy and from laudanum—not prescribed by me this time. A rectal examination showed the uterus and ovaries to be normal in size and situation. *Secale* 3x completely cured this case.

The last case I shall try your patience with is one of typical spasmodic dysmenorrhea. The pain was so severe as to send the patient to bed each month. The lady was a secretary, in excellent health otherwise, with a good deal of sedentary work. Menstruation was scanty and delayed from one to two weeks. The uterus was found to be retroflexed and had a small myomatous nodule at one cornu; the right ovary was prolapsed. The case is introduced chiefly to refer to the virtues of *plumbum* in spasmodic dysmenorrhea. This drug is indicated for the genus by its known spasmodic effect on involuntary muscle and for the individual by the symptom—"the flow lessens or ceases during the spasms of pain." This patient took it for four or five months with occasional intercurrent remedies, in dilutions of 12x or 3x. At the end of this time she had practically no pain and kept about her work with comfort all through the period.

About this time she developed enlarged cervical glands with a fluctuating opsonic index to the tubercle bacillus. These were reduced by *calcarea*, *merc. vivus*, and *tuberculinum*. At the end of nine months she discontinued treatment, quite well, having been five months without special treatment for the dysmenorrhea, and yet remaining practically free from pain.



The treatment did not in the slightest degree alter the position of the uterus and ovary.

When I am treating a case medicinally I am always devoutly thankful that I know something of homeopathy. Even the most lukewarm homeopathist would feel sadly bereft if deprived of his armamentarium of similars.

When I am writing a paper on medicinal therapeutics, a series of reflections occurs to me for which I will ask your indulgence while I inflict them upon you.

(1) If it is difficult to treat a case successfully, it is almost more difficult to record it instructively; one's records are so poor and one's reasons for prescribing, even when success follows, are so often unevident. The difficulty was apparent even to Hahnemann, for he left on record, if I am not mistaken, only one really detailed teaching example of the application of his principles—the celebrated bryonia case in the preface to the “*Materia Medica Pura*.” When asked his reasons for such and such a prescription, he often replied: “Study the ‘*materia medica*.’” This leads easily to my second reflection—or, if you will, platitude:

(2) The more of hard study of drug symptomatology we put into our treatment, the more in the way of solid curative results shall we get out of it. With such study we can never be done; of such knowledge we can never have enough. If we are more ready to blame our own knowledge of pharmacology than to blame homeopathy for our failures, we shall be the more anxious to remove the imperfections or limitations in it, which I cannot help thinking every honest student must acknowledge to exist.

(3) Of the limitations, some are inevitable and permanent:

(a) Man is mortal, and it requires a higher power than the law of similars to endue him with the gift of a new and unending life.

(b) The effects of disease and the toxic action of drugs are not necessarily coextensive, and, as a fact, are not coextensive. The therapeutic effects of drugs have corresponding limitations. Both these are permanent, natural limitations, which we must accept.

(c) The limitations placed by our ignorance of knowledge already within our reach, and by the smallness of the sum total

of existing knowledge, are remediable by study and by research.

(4) It is along the lines of original scientific research that the hopes of therapeutic advance must travel. The excellence of the results obtainable with only the symptomatic resources furnished by Hahnemann and his pupils—and they are excellent indeed if we use them aright—should not deter us from extending our knowledge along lines which his scientific mind would have been the first to advocate had he lived in our day.

Since many of us last faced our examiners, the whole science of hematology has developed. Have we developed our knowledge of the hematology of drugs in any degree approaching? Certainly not.

How the study of “urinology,” if I may coin a word, has advanced during a similar period! What about our scientific knowledge of the effect of drugs on the renal secretion?

We know something of, say, blood coagulability in chilblains, in certain hemorrhages, in nettle-rash, etc. The explanation of the action of lime by raising the coagulability in two of the states has been made—though not by our body. We know that pulsatilla often cures chilblains, and that apis, rhus, and primula do the same for nettle-rash. Shall we not set to work to find out if these drugs also influence blood coagulability?

(5) I believe a rational explanation of homeopathy is wanted to send it forth on a career of triumph.

Of the truth of the principle, our orthodox brethren are unwittingly, and perhaps unwillingly, furnishing new and tangible or ponderable proofs almost every year. It is for us to show the best means of applying the principle. Valid, demonstrable explanations—such, for example, as the opsonic estimations in a variety of diseases furnish—would enhance our own confidence in treating, and facilitate the teaching of homeopathy to the skeptical as nothing else would do. It is comparatively easy to treat without an explanation, but it is excessively difficult to teach without one.

There is room for the most ardent and scientific workers in our body—such workers as Liverpool has been most forward in supplying in the past. Such workers would win themselves undying fame, would furnish keener weapons for themselves and their brethren in the daily struggle with disease,

and merit the gratitude of suffering humanity. And those of us who are too old for much new work can still do ourselves credit and bring honor to our cause by an honest attempt to adopt drug pathogenesis as we may know it at its best, to pathology as it varies from decade to decade.

Further, if we want to advance homeopathy, I do not think we should be ashamed to explain its principles and merits in a judicious manner to our patients and friends. They alone furnish the "sinews of war" for teaching and for research.



## THE HOMEOPATHIC TREATMENT OF CANCER.

BY T. W. BURWOOD, M.D.

As this paper will be more or less a comparison between the so-called "Orthodox School" and our own, I will at once begin by quoting a few allopathic authorities.

Professor Goss says: "All internal remedies of whatever kind or character have proved unavailing; the vaunted specific of the empiric, and the enchanting draught of the honest but misguided enthusiast, have all alike failed in performing a solitary cure, and the science of the nineteenth century must confess with shame and confusion its utter inability to offer even any rational suggestion for the relief of this class of affection."

Aitken says: "In whatever part the disease may be situated, the general rule is to restore the health function of that part and to alleviate by opiates and chloroform or chlorodyne internally. These remedies are for a time successful, but make no impression on the disease, which silently proceeds, until the patient finally limits himself altogether to opium. The quantity of morphia and other narcotics known to have been taken in such cases is something enormous. These large doses usually produce loss of appetite, narcotism, constipation, headache, and delirium, so that the patient is only the more rapidly exhausted."

Simpson says: "In the way of constitutional treatment of uterine and other forms of cancer we can do nothing, or almost nothing, except retard and alleviate the course of the malady; nearly every form of vegetable remedy has been tried,

with absolutely no success whatever. All that we can do is to keep the patient as near the standard of health as possible by generous diet, by invigorating regimen and tonic medicines, and thus enable the patient to bear up against the debilitating and destructive nature of the disease."

Watson says: "The treatment of this dreadful complaint can only be palliative, and sooner or later we have to fall back upon opium. Anodyne enemata have often had good effect in relieving pain, or the remedy may be given hypodermically."

Roberts says: "From a medical point of view the treatment of malignant disease is entirely symptomatic. No cure has ever been effected by any vaunted internal remedies, inoculation, x-rays, or radium. Subcutaneous injections of morphia are frequently called for."

Erichsen says: "All constitutional treatment is certainly useless, and no constitutional remedies appear to exercise any material influence over the disease. Much may be done by palliative treatment towards retarding the progress of cases that do not admit of operation. Preparations of opium, conium, and hyoscyamus must be freely administered in order to relieve the patient's suffering and procure rest."

A recent writer says: "We are face to face with a rapid increase of a mortal disease, one universally dreaded more than any other, and for which we have in the majority of cases no remedy whatever."

From the foregoing it is unmistakably clear that any treatment the "old school" can employ is useless, and the only help the patient can expect to receive is from the hands of the surgeon; and in not a few instances even the knife is powerless, though the surgeon seems to think that surgery is right and everything else is wrong, and more often than not confesses he is unable in the early stages to diagnose the case, but insists on "immediate operation," that he may submit the result to a microscopic examination. If a case be cured without operation, and therefore without a microscopic examination of the growth, then, of course, our diagnosis is wrong.

We, as homeopaths, can certainly "go one better" than these authorities, for though we do not "lay the flattering unction to our souls" that we cure all our cases, we can lay claim to improving the health and so put the patient in a more favorable position to battle against the disease, prolonging

life for many years, and making it bearable, without upsetting the whole economy by the administration of opiates.

I will now quote opinions from homeopathic authorities, but the "time limit" only allows me to indulge in a few.

Hahnemann, the revered father of homeopathy, says: "According to my observation the solution of corrosive sublimate, nitrate of mercury and arsenic water, judiciously employed, are the most sovereign remedies for the cleaning of open cancer, as they are for all malignant sores."

Professor Lilienthal, after forty years of practice, says: "There are no remedies for cancer; the individuality of the patient, the cause of the affection, and the concomitant symptoms may aid in selecting a remedy which, for the time being, will alleviate the suffering."

Dr. Bayes says: "There is abundant evidence to prove that hydrastis in malignant cases improves the general health and removes the cachectic appearance of carcinomatous patients, and also exerts a powerful influence for good on the glandular system."

Dr. Kidd says: "In an extensive practice during many years with a large number of unsuccessful cases, I have been three times encouraged as to the possibility of curing cancer. They were very good cases, the second one of the best I ever had, the patient living for a long time afterwards in perfect health."

Gould says: "It has been shown that cancer in the human subject never attacks, in the first instance, perfectly healthy tissues, but in all cases it was preceded by certain other definite tissue changes. This was an exceedingly important fact. It did not reveal the actual cure of cancer, but it certainly carried us a very important step forward, and emphasizes the extreme importance of conserving with the utmost care the perfect integrity of the tissues of the human body."

Resistance.—If, then, we are to combat the terrible malignant energy of this disease, the constitution of the patient must be fortified by the most nourishing diet so that the pabulum of the blood may be able by its resistance to neutralize or antidote the germs of the disease, and by this means check the advance of destruction of tissue. We thus build up the patient's strength and so give a better and prolonged opportunity for the action of our remedies. For in almost every

case there coexists a vitiated condition of blood which may be rectified by suitable treatment, and in my opinion herein lies the possibility of cancer being preventable, if not curable.

With but few exceptions the digestive and assimilative functions become weakened, there is loss of weight and strength, anemia is present, together with pain and tenderness; while in cancer of the stomach we get also anorexia, emesis, hemorrhage, and consequent emaciation.

Bland-Sutton says: "Irritation, local or otherwise, affecting the tissue may cause abnormal epithelial growths, which, rising above the general level, may produce warts. On the other hand, the epithelial growths may dip into the sub-epithelial tissues, and on account of lack of formative development, run riot either from decline of vigor or constitutional debility, and originate tissue of low vitality, which we call carcinomata. The conditions favorable to the development of carcinomata are absent in the young, hence in the young we have warts and in the old cancers."

These facts have a bearing on the treatment of malignant tumors. Every homeopathic physician has over and over again cured warts by internal treatment, while by the same methods cures have over and over again been made of tumors in the female breast, an organ notoriously disposed to malignant neoplasms. Here the action of *conium maculatum* cannot be denied, and what is true of this remedy is equally so of many others.

Homeopathic Treatment.—Before beginning the homeopathic treatment, I must regret the time at my disposal forbids me going into the pathogenesis of the medicines we employ, not that it is at all necessary, as all homeopaths who believe in *similia similibus*, founded on personal provings, as well as by clinical experience, will not require to be told what they all know as well, or better than I do, why we place our trust in our materia medica. The title of my paper is not "The Homeopathic Cure of Cancer," but the "Treatment of Cancer on Homeopathic Lines by the Homeopathic Physician."

Now, as "one swallow does not make a summer," neither does one case prove anything, but when, in a long term of years, large numbers of cases have presented themselves and with the same satisfactory results, we are justified in concluding that our remedies, carefully selected, have done good.

Wilks says: "If a patient has a chronic disorder which is slowly progressing towards the inevitable end, and a medical man steps in with a certain medicine, and soon afterwards the downward progress is arrested, and is followed by complete restoration to health, or even greatly ameliorated, there can be no doubt that the remedy and the recovery stand in the relation of 'cause and effect.'"

The majority of the cases we meet with are either in the female breast, the stomach, uterus, liver, or rectum. In all these cases there is great hope of improvement, and even of prolongation of life, under homeopathic treatment. My experience tells me the pancreas and bladder are not infrequently affected with malignant disease.

#### CANCER OF THE BREAST.

I must strongly emphasize the great importance of the early recognition of any swelling in the female breast as an aid to diagnosis and treatment. The innate modesty of the patient makes her so reticent that she will for months go on without telling even her own mother or sister she suspects anything wrong, and finally when she has summoned up courage to divulge her fears, it is to one of her intimate acquaintances rather than to any member of her own family. By this time her anxiety has begun to tell on her health, so much so that the cachexia of malignancy has already stamped itself in her face.

When a case of cancer in the breast presents itself to me in its early stages, and before there is much or even no pain, I invariably put the patient on *hydrastis* 1x internally two or three drops of the tincture four times a day before meals, and a lotion of equal parts of *hydrastis* and glycerine applied by being painted on with a camel's hair brush and covered with medicated wool. I have this done morning and night.

I give strict injunctions whenever outward applications are employed that they are not to be rubbed in, lest irritation may be set up unnecessarily in the swelling. I also impress on the patient the desirability not to be constantly feeling if the tumor is altered in its size, and not to think about it more than she can possibly help. I also insist on the absolute necessity for the arm, on the affected side, being kept quiet and in a sling.

I have certainly found *hydrastis* 1x very efficacious when persisted in for some weeks, as, besides affecting the breast favorably, it seems to influence for good the faulty nutrition.

*Conium Mac.*—Butu if, with the swelling, there is pain in the early stages and an absence of redness, I have found one to three drops four times a day of *conium* 3x, over and over again give marked relief, even more so than *belladonna*, though this last remedy is invaluable when there is great throbbing. *Conium* ointment, B.P., applied on lint is most soothing.

*Arsen. Alb.*—When, however, the pain is of an agonizing, burning character, not only in the breast but in the nerves of the brachial plexus—*arsenicum alb.* 3x at the onset, and then later on in the fifth centesimal, is the medicine I rely on for a long period. It is more indicated where there has been at any time eczema of the nipple and areola. Its action on the blood itself, the stomach, and heart, makes it a most estimable “pick-me-up,” and this is the name I give it to the patients, who swear by it. This medicine seems to hold the whole trouble in check. If the pains are of a very stabbing character, then *spigelia* 3x is given, but cautiously, as I so often have found medicinal aggravation set up by this medicine if the patient is at all hyper-sensitive to its action, and in that case a higher dilution, the 12th, is more suitable.

*Mer. Cor.*—As soon, however, as ulceration is set up, with a marked tendency to the breaking down of tissue, I invariably call to my aid *mercurius cor.* 3x internally, and a tepid lotion of 1 in 3,000 of the same, externally as a wash, to be applied gently with a glass syringe twice daily. The affected part is then packed lightly with small pieces of lint soaked in the same lotion, and when changed washed out with the syringe. I continue this indefinitely, unless any fresh symptoms arise in the general health calling for other remedies. I have seen the most brilliant results in producing healthy granulation, so that what was once a large open sore has gradually healed, and at the same time the glands in the axilla have quite or almost entirely disappeared. I have a case now of a lady, who came to me twelve years ago, when she had been told by surgeons she must undergo an operation. She was suffering intensely night and day with pain in the breast, arm, and shoulder. I at once put her on *conium* 1x.



Conium 1x.—At the end of ten days she comes telling me she “has not had nearly so much pain, though she has a little sharp stinging occasionally for a few minutes, which soon passes off.” The skin over the tumor looked very suspicious of soon ulcerating, which it did at the end of five weeks, and I at once turned to my sheet anchor, merc. cor. 3x. When any slight bleeding occurred I stopped the merc. cor. both internally and externally, and instead gave phosphorus 5 internally and calendula externally. If, however, the bleeding was more profuse than a simple oozing, I employed pure hamamelis or hazeline. When the hemorrhage stopped I at once reverted to the merc. cor. 3x.

Some patients suffer more pain in the breast at the menstrual period, and at such times I have found bryonia 3x. to be the panacea, to the great delight of the sufferer, and that when belladonna has been absolutely useless. Aconite in half-drop doses has frequently relieved the restlessness and produced sleep, which, when under allopathic treatment, had to be obtained with opium.

Mental distress and anxiety in family matters will often produce disastrous results in the organ affected. I have often seen the quiescent tumor roused to activity and pain after some shock or domestic trouble, and in these cases frequently repeated doses of ignatia 1x have been the greatest comfort to the patient. For twenty-two years one of my patients had scirrhus of the right breast and no one knew of it except myself and my colleagues. During all these years she took nothing but hydrastis 1x, conium 3x, arsenicum 3x, and mercurius cor. 3x, according to symptoms, and not until about six months before she died, when she had a period of anxiety and strain, were there any secondary deposits. Then the glands in the anterior mediastinum became implicated with the malignant trouble, and so interfered with the action of the heart that the patient ultimately died.

Two only of my cases underwent operation for amputation of the breast. One patient, a married lady, lived four years of miserable life, and finally died of cirrhosis of the liver and malignant jaundice. The “violet leaves cure” was tried in this case, but with no good result. The other was a maiden lady who, after the breast had been removed, lived

five years. To detail the history of this case and its many and varied phases would fill a volume; but I refrain.

Besides the medicines I have mentioned in the treatment of scirrhus, there are others, amongst those usually prescribed, according to circumstances, constitution, and symptoms, such as calcarea carb., graphites, phytolacca, and silicea.

#### CANCER OF THE STOMACH.

The range of symptoms in malignant disease of the stomach is very wide and lays a heavy embargo on our materia medica. The number of medicines at our "beck and call" is very large and to differentiate between the various drugs according to the totality of the symptoms and constitution of the patient is a very important task in the homeopathic treatment of the disease. Arsenic 3x is well to the front for the burning pain, vomiting, and emaciation so constantly present, though I think kali bichrom. 5 runs it very closely, especially so if there is a tendency to constipation and a feeling of nausea when moving about. Both medicines have the same cachexia in their pathogenesis.

For the vomiting I have found kreosote 3 of more help than ipecac. or ant. crudum, though if there be coffee-ground appearances I believe largely in phosphorus 5. In some cases drinking hot water, and in others sucking small pieces of ice, is very salutary. Where the patient finds relief from taking food, hydrastis 1x and lycopodium 5 are useful, the former more so if constipation is present, and the latter if there is much distention of the intestines and a sandy deposit in the urine, together with a mapped appearance of the tongue. Lachesis 5, too, is indicated by a gnawing pressure, made better by eating, but coming on again in a few hours. The emptier the stomach the more violent the pain, and here lachesis 5 is good.

If acidity be a prominent symptom, I think, in most cases, pulsatilla 1x is an excellent remedy, especially if the thought and smell of food produces disgust and aversion to eating; though in several cases where pulsatilla seemed to be called for and failed, hydrochloric acid 1x, three to five drops in half a wineglass of cold water, has often been very useful in my hands when acidity is the marked symptom. This is taken

before meals. Of condurango, acetic acid, and lapis albus, and many others, I have had no experience.

Diet.—The difficulty with the diet is such that it is impossible to lay down any hard-and-fast line to suit all cases, so much so that we frequently find “what suits the goose does not suit the gander.” This difficulty with the diet varies so much with different patients. Milky foods, which one would suppose to be the most appropriate, suit some, while others cannot take milk in any form. Beef tea, mutton, veal, and chicken broths, and the like, may be the only nourishment you can get in, but if a plasmon biscuit or a little plasmon powder be stirred in, so much the better. A panada of fish or chicken may agree with some and not with others. I have at this time a lady, aged eighty-four, who has been suffering for some years with a tumor in the anterior wall of the stomach, which is exquisitely sensitive to palpation, and who suffers more from flatulence than vomiting, who finds 2 oz. of fillet steak beaten to a pulp, with a tablespoonful of cream added, and eaten as a sandwich, gives more satisfaction and comfort than anything else. She will vary the monotony by occasionally having a suspicion of anchovy paste smeared on the bread and butter. If she ventures on anything more solid she takes a pinch of Richard’s lactopeptin, with good effect. A calf’s tail stewed in new milk and served with parsley butter, with the juice of half a lemon over it, is a most nutritious dish, invariably liked, and is easily digested. When exhaustion is great I find an egg, white and yolk, well beaten up, and the tumbler half filled with champagne, an excellent “pick-me-up,” though egg in any other shape or form cannot be tolerated. When the stomach rejects everything, nutrient enemata or nutrient suppositories will be necessary.

I cannot speak too highly of Valentine’s Meat Juice, Horlick’s Malted Milk, and Neave’s Food. I prefer a little concentrated nourishment frequently given to larger amounts at longer intervals. I found a mouth-wash of one or two dessert-spoonfuls of hock in a small wineglass of seltzer water more agreeable and pleasant than anything else, the patient often exclaiming after using it, “Oh, that’s nice!” and if the siphon has been on ice, the better they like it.

If there is constipation I prefer an injection per rectum of warm water, or thin gruel with a tablespoonful of Lucca oil

stirred in with it. If there is much abdominal distention, I order a tablespoonful of turpentine and salad oil in equal parts to be gently rubbed over the abdomen and then covered with hot cotton-wool. I prefer this to giving any so-called "opening medicines." As outward applications, hot, tepid or cold compresses, according to circumstances, or if in much pain extract of belladonna and glycerine, I am very partial to.

#### MALIGNANT DISEASE OF THE LIVER.

Except in the cases of "old toppers," and one case of a lady who had suffered for years from diabetes, and who when the sugar ceased to be excreted in the urine developed malignant disease of the liver, I have never seen a case of cancer of the liver as a primary disease; there has always been antecedent trouble either in the breast, uterus, stomach, or other organ. Therefore, in treating the trouble in the liver I always keep in view the primary mischief, and study the patient rather than the disease.

I usually commence my treatment with *nux vom.* 3x and *arsenicum* 3x where alcohol has been responsible, as both these medicines, in my opinion, are antagonistic to the influence of it. Arsenic is very plainly indicated if there is that sense of burning in the liver so often complained of, and accompanied by great weakness and emaciation.

When jaundice is present, whether from pressure or catarrh, I am very much attached to *chelidonium* 1x, having seen better results from its use than anything else. If there is a history of hepatic colic (gall-stone), I at once put the patient on *cholesterin* 3x, 2 grains every night at bedtime. If with the jaundice pneumonic symptoms are present, I then prescribe *phosphorus* 5, which we all know has such excellent effects on both liver and lungs. *Nitric acid* 1x I have found useful if with the jaundice there be constipation and stitching pain in the liver, and a sense of pressure on that organ. *Mercurius sol.* 3x is a reliable remedy, especially if there is any syphilitic history. *Podophyllin* has often disappointed me.

When ascites is present, and I feel we are nearing the end, paracentesis is called for, though only as a temporary measure. As adjunctive treatment I keep a wet compass over the hepatic region until a red rash appears, when I have it removed, and the part sponged with tepid water, and afterwards

covered with a layer of cotton-wool or gamgee tissue. As soon as all the redness has disappeared the compress is again applied. For the irritation of the skin, so often present in jaundice, I know nothing so soothing as a bath of a temperature of 100° F. daily, if the strength of the patient permits it. I think this helps to control the congestion and the catarrhal condition, and frequently, if taken in the evening, gives a good night's rest.

Diet.—The diet has to be regulated to a nicety, and must be non-irritating and free from stimulants, unless great exhaustion is present; then I give a little brandy beaten up with egg and milk. As to drinks, skimmed milk, plenty of cold water or seltzer water if there is a tendency to constipation; fresh fruit and most vegetables I allow, except potatoes. As for meat, a little lamb, or mutton without fat, are quite as harmless as chicken or fish. It is sometimes very difficult to tempt the patient to eat, as what may be enjoyed to-day may be repulsive to-morrow. By taxing one's ingenuity, one may concoct a relish, and, if only for a time, something is gained.

#### CANCER OF THE UTERUS.

Cancer of the uterus is by far the most frequent, and here the female sex has decidedly the worst of it.

In the early stage, as soon as the mischief is diagnosed, I put the patient on belladonna 1x and continue it for some weeks, as there is almost constantly a sense of congestive fullness, throbbing, bearing down, with engorgement of the glands in the neighborhood, and backache, with or without hemorrhagic discharge. When there is much pain and induration involving the ovaries, as well as the uterus, conium 1x is a very reliable medicine; the patient always finds it soothing and comforting. Graphites 5 and hydrastis 1x are both most excellent remedies, the former especially when there is aggravation of pain just before or at the "period," with swelling of the lymphatics, and the neck of the uterus hard and swollen with cauliflower excrescences; the latter (hydrastis) if there is constipation and other digestive troubles. Chamomilla 3x must not be lost sight of, as I have often found it eases pain when other medicines have failed. In cases developing at the "climacteric," where pressure is intolerable and the pain chiefly located in the left side, running down the

course of the nerves, lachesis 5 is the remedy. For burning pain in the uterus, accompanied by acrid discharge, light or colored, or disagreeable smelling, arsenicum alb. 3x and carbo veg. 5 have done me good service, while kreosote 3 internally, and a hot douche of the same drug in the proportion of 1 in 100 as a vaginal injection, have been a great comfort. When either belladonna, conium or hydrastis is being given internally, I usually employ a suppository made up with the same medicine and passed high up into the vagina—this is done every night or two. When the cervix is much ulcerated I have found mercurius cor. 3x, and gentle but thorough warm douching for some minutes with the bichloride 1 in 3,000, answer well.

For the hemorrhage, which is sometimes very alarming, sabina and secale have not always satisfied me. I have had far better results from crocus 3x and hamamelis 1x. Hot douches at a temperature of 110° to 115° F. may act sometimes very promptly, but if the bleeding portion is out of reach the douche is not of much use. I think a hot sitz-bath, when the strength of the patient permits it, is often very useful, and if taken daily so much the better; if at night, it generally soothes and promotes sleep. During the menstrual period great care must be taken and absolute rest enjoined for at least two days, with a vinegar compress applied over the whole abdomen. After the "period" has subsided a warm douche with one teaspoonful of Sanitas to a quart of warm water is most comforting.

The patient's whole manner of living demands careful watching. Her dress must be loose and no corsets allowed. Walking gently out of doors, thus getting all the fresh air possible, does no harm. I had a lady suffering from this trouble who was an enthusiastic tennis player and who could not be persuaded to give it up entirely. The only trouble she had after a game was the urgent necessity for the catheter, which she could not do without on these occasions. The whole regimen must be directed to maintaining the strength at as high a pitch as possible, only allowing stimulants when absolutely necessary, and that very cautiously, lest the patient slip unwittingly into alcoholism. The bowels I keep open by allowing plenty of fruit; hot water enemata are useful, which

I advise the patient to retain as long as possible, as they relieve pain and control in some degree the congestion present.

CANCER OF THE BLADDER.

I have only had two cases of cancer of the bladder, both of which were females. In one the ulceration perforated through to the intestines, so that the feces were discharged per urethram, which necessitated frequent irrigation with Condy or boracic water, and this for many weeks. Both patients obtained more relief from thuja 1x than anything else, though arsenicum 3x and conium 1x were frequently in requisition as indications arose, but when the urine became ammoniacal chimaphila 1x was helpful, and terebene 1x when hematuria was present.

In malignant diseases of the glands of the neck cistus canadensis 1x carries off the palm, and in a measure holds the mischief in check, but the rapid growth of the tumor is such that in one case the knife was resorted to, with the result that in a week or two a second and fatal operation was called for.

I do not for a moment presume or expect anything I have said is at all new to my colleagues assembled here who know their homeopathic materia medica. My intention has been to show how, with our judiciously selected remedies, we can do without poisoning our patients with morphia. In all my years of practice I have not given half a dozen injections of morphia in malignant disease to relieve pain. Where sleep has been disturbed, or prevented by restlessness, I have given either hyoscyamus 1x or five to ten drops of nepenthe.

I do not wish it to go forth from this Congress that what I have said is all that could be said on our treatment, nor that the medicines I have mentioned are the only ones at our disposal. Though the disease is what we have to think about, the constitutional condition of the patient is equally paramount. One symptom does not make a disease; it is the totality of the symptoms that must not be ignored. When case after case presents itself, and the results are the same, I think we are justified in our conclusions that our carefully selected remedies have done good.

I am fully and firmly convinced that the far-reaching action of our medicines has a great influence in checking secondary

deposits. In the scirrhus case before mentioned there was no sign of infiltration in the axilla for eight years, though I examined for it on every visit; but on March 3, 1904, *i. e.*, eight years from first seeing the case, I find in my notes, "For the first time there is a suspicion of trouble in the axilla."

As homeopaths, we do not assert that we can cure cancer except in the early stages of the disease, but we have the satisfaction of constantly hearing from those sufferers who place themselves under our care, after being previously in the hands of allopaths, the regret that they did not come earlier under the treatment we employ, as they get more relief and freedom from pain while taking our medicines than they did before, and that without morphia and opium. The general who is the most successful in his campaigns is the one who has the greatest amount of armament and variety of forces at his disposal. So with the physician, he who has an intimate knowledge of our materia medica has an arsenal to fall back upon, on which he can rely with confidence to assist him in fighting the enemy, and if not in curing his patients, he can at least give relief.



## REST AS AN IMPORTANT FACTOR IN THE NON-OPERATIVE TREATMENT OF GYNECOLOGICAL DISORDERS.\*

BY E. A. WEISS, M.D.

The advances made in modern gynecology have been so distinctly surgical that many non-operative procedures have been neglected. This is clearly exemplified in many of the recent text-books which devote little or no space to the palliative treatment of pelvic disorders. The surgical treatment alone is taught so that many valuable therapeutic means have undeservedly fallen into disuse. The result is that too often needless and sometimes harmful operations are performed on the female pelvic organs. By such unnecessary operations not only are the patients not relieved, but the profession is criticised, and often justly so.

There are many pelvic conditions which yield only to sur-

\* Read before the Allegheny County Medical Society.



gical treatment, and in which therapeutic and other palliative measures would be useless and sometimes harmful; as, for instance, in growing neoplasms, pus accumulations or complicated displacements. In other cases the patient may choose between a long continued non-operative or an operative plan of treatment. A third class of cases embraces medical as well as operative treatment, in order to secure the best results. In still other cases non-operative measures only are necessary.

Before deciding on any line of treatment for the correction of pelvic disorders, a most careful and painstaking examination must be made. The best results are to be had not always by the one who operates most, but by the one who knows when not to operate. Certain operations easy of execution are often employed as a routine measure when non-operative means would be productive of more good. Possibly of all operations none is more frequently abused than the operation of curettement. Not infrequently a simple functional derangement is converted into a real pathological condition by the indiscriminate use of the curette.

The uselessness of drugs in many pelvic disturbances is well known. That no drug can have an elective action on the tubes, ovaries or uterine mucosa is well known. Yet in spite of this knowledge many standard as well as proprietary drugs are prescribed for endometritis, salpingitis or inflammatory conditions of the pelvis. But the fact must always be borne in mind that certain remedies by their general systemic action influence certain local pelvic conditions; as, for example, a brisk purge may by its depleting action often relieve pelvic congestion and painful menstruation, or the proper employment of iron and arsenic may be the very best remedy for the correction of certain functional menstrual disorders.

Some of the more generally adopted measures in the palliative treatment of gynecological disorders in addition to medication are elimination, douches, local applications, tampons, massage, and electricity. But the most important general agent in the treatment of female disorders is rest. This is a factor which has not been given the attention it deserves.

In this connection rest not only implies cessation from work but also from functional activity. When we tell the average patient that she should rest it is interpreted to mean lounging

about the house with no definite routine of living. When we prescribe rest we should explain minutely what the patient should do, just as we describe minutely the diet of a dyspeptic.

Rest is required in a number of conditions in gynecology, but the more common instances are (1) in acute inflammatory conditions; (2) in congestive pelvic disorders; (3) in certain displacements complicated by splanchnoptosis; (4) in nervous disorders referable to the pelvis, especially neurasthenia.

According to the indications rest may be (1) absolute, continuous rest in bed; (2) partial rest in bed; (3) rest at stated intervals; (4) rest with exercise; or (5) isolation.

The principles of rest were first pointed out by Hilton in his lectures on Rest and Pain in 1860. He stated that "it is an admitted physiological axiom that each structure or organ, whilst actually employed, is in a state of vascular excitement or turgescence, and, therefore, enlarged during that time. So it is noticeable that each organ of the body which is liable to the rapid supervention of activity in its proper function is so placed in its relation to surrounding structures as to permit of temporary enlargement during the persistence of that activity. When it returns to its state of rest or period of self-reparation, it may be said to have returned to its normal or standard dimensions."

We know from clinical experience that rest in bed decreases the amount of blood sent to the part and also lessens the force of circulation. It has been demonstrated that the heart beats about fifteen times a minute less when the patient is recumbent than when he is erect. The benefit to the local condition and the consequent relief from congestion is therefore great.

Rest in connection with acute pelvic infection should be absolute. The patient should not be allowed to leave her bed under any circumstances; neither should she be allowed to sit up in bed. The necessity of such absolute rest has been proved repeatedly in cases of acute pelvic peritonitis which were treated at the patients' homes, for three or four weeks without the temperature remaining normal longer than a few days at a time. The sending of the patient to the hospital or the placing of a competent nurse in charge of the patient would repeatedly result in the temperature remaining normal, with a continued improvement in the inflammatory condition. The

improvement in every case could be traced to the fact that the patient was kept at absolute rest under direct supervision. The patient, unless instructed to the contrary, does not consider sitting up in bed or getting up to empty the bladder or bowels detrimental to speedy recovery. In treating pelvic inflammatory conditions, other measures should of course be employed, such as elimination, ice to the abdomen, diet, etc., but rest is of imperative value.

Our present knowledge of the acute pelvic infections is such that much local treatment, particularly by operative interference, should be employed only in a small percentage of cases during the acute stage of the affection. Formerly we were taught that the presence of pus was an indication for immediate operation. We now know from clinical experience that in such cases, when treated by absolute rest, the infection becomes less virulent and that the bacteria and toxins disappear. Unless secondary infection occurs, sepsis usually disappears in from two to three weeks.

Until about four years ago it was the rule to operate at almost any stage of pelvic infection. A comparison of our post-operative mortality as well as morbidity with the present method of waiting two or three weeks after all evidence of sepsis has disappeared, shows a marked improvement in favor of the later method of treatment.

The necessity of rest in cases of bleeding is well known, nevertheless it is a therapeutic measure which is too often neglected in the treatment of menorrhagia, subinvolution or other uterine bleedings. Ergot, hydrastis, and other similar drugs are notoriously inefficient when not supplemented by rest. In like manner, pelvic engorgement with its accompanying pelvic pain is best relieved by absolute rest. If such a plan of treatment were instituted in selected cases of so-called congestive endometritis, many needless curettements would be avoided.

Posterior displacements and partial or aggravated prolapsus of the uterus, especially when associated with ptosis of the abdominal viscera, are undoubtedly relieved, but of course not cured, by the recumbent position. While more of such cases should be treated by surgical measures only, there are conditions such as age, constitutional disease or even family considerations which do not allow of operative treatment. In

such patients it would be an injustice to disregard the case by denying that there is any other relief than by the knife. If the case is one of retroposition of the uterus without any complication, the treatment should be reposition of the uterus together with a properly fitting pessary. To prevent undue pressure and at the same time to avoid the pelvic venous stasis, which attends such conditions, rest in the recumbent position for at least one hour every afternoon should be insisted upon as a most important adjunct to the treatment. This form of treatment is particularly applicable to the all too numerous class of patients who for social and financial reasons must work without sufficient relaxation. Such patients feel relieved when lying down and for a few hours afterwards, but standing constantly for six or eight hours causes a return of the symptoms, and if the standing position is maintained for ten or twelve hours the condition is more aggravated and the distress is consequently greater.

Pelvic disorders and neurasthenia are so often closely associated that frequently it is almost impossible to determine which is cause and which is effect. Any diseased condition should of course be given the proper surgical and medical attention before pronouncing it neurasthenia. It is in this class of patients particularly that the note of warning should be sounded against operating for pelvic disorders with the expectation of relieving the patient of her neurasthenic symptoms. The treatment of pelvic neurasthenia presents a varied problem to the attending physician. It would be advisable in many cases to treat the patient for several days before operating, if such a procedure is indicated. In this way the symptoms can be studied closely and the rest would be of decided benefit in many ways. This treatment could best be conducted with the patient in bed, and better in a hospital where she will be away from home influence. In a few cases, a systematic Weir Mitchell rest treatment should be tried. If the patient responds to treatment there should be an increase of from two to four pounds a week. The benefit is often extraordinary not only as to the neurasthenia but also as to the pelvic condition.

The advantage of the rest treatment can best be demonstrated by the improvement shown by some patients during the three or four weeks in bed after operation. The rapid im-

provement is due not so much to the operation as to the enforced rest, for example, cases of extreme prolapsus uteri with its long train of symptoms, such as emaciation, gastric and intestinal distress, nervous derangement, etc.; and it would be no exaggeration to say that such a patient derives as much good from the prolonged rest in bed as from the operation itself.

The only objection to this long continued inaction is that certain objectionable effects would manifest themselves, such as poor elimination, inactivity of muscles, accumulation of fat, etc. The most important measure to overcome these defects is the employment while in bed of regular systematic massage or manipulation of the muscles, by which means a healthy condition can be maintained until such time when regular muscular exercise can be resumed.

In regard to bodily exercise the index should be the strength and general condition of the patient. A mistake too often made is to make weak and debilitated patients take long walks. For such a patient rest is more desirable and fresh air may be had at the same time.

It may seem from the foregoing that I am opposed to operative treatment in gynecological conditions, but such is not the case. Let us operate for true surgical conditions when a real indication exists.

The principle of rest is too often neglected or is relegated to a minor place in our treatment of gynecological patients, and my desire is to emphasize a simple but most important adjunct to our non-operative treatment of pelvic disorders.



## Current Comment.

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C. M. Pollard, M.D.:

The method for the **induction of labor** which I prefer to use is that of **accouchement forcé** or manual dilation.

This method is difficult and there is greater danger of sepsis. Care must be observed to gradually stretch the cervix so as not to tear it, and after emptying the uterus one must be alert to the danger of post partum hemorrhage.

The patient is given castor oil at bedtime before operation and the bowels are thoroughly washed out in the morning. The patient is placed on the table, and given a hypodermic of strychn. sulph. gr. 1-30, to stimulate contractions of the uterus. The vulvar hair is clipped short. The vulva and inside of the thighs are scrubbed thoroughly with the tincture of green soap and then scrubbed with a 5 per cent. solution of lysol. Sterile leggings and towels are placed upon the legs and abdomen.

There are two ways in which this manual dilation may be performed. If the cervix is high and does not readily pull down low enough for the index finger to easily reach the external os, then the preferable manner of dilating the cervix is by inserting the hand into the vagina and dilating after the manner of Harris. The index finger is first inserted, then the middle finger is gradually forced into the os alongside of the index finger, then the thumb, and then the ring finger and finally the little finger. This method is not as natural as the one about to be described because the external os has to be dilated before the internal. The second method is used in cases where the cervix is low or where it is easily pulled down.

If one finger only can be inserted the volsellum must be used to grasp the cervix, thus aiding by holding while the index finger dilates. The index and middle fingers of the right hand are inserted through the cervix as soon as possible and then are separated a little. It is wise to dilate the internal os first. After stretching the cervix a little the fingers are removed. After a few minutes of rest, this procedure is repeated. The rest between the dilatings is to stimulate the rest between labor pains in normal labor.

After the internal os is dilated a little in this way, so that the two fingers of the right hand enter readily, then the index fingers of both hands are inserted. The manner of holding the fingers is to have the dorsal surfaces together and separate the ends of the fingers by pressing the first phalanges together.

When the operator has reached this point he can dilate quickly if necessity should require.

Later the three fingers are inserted and finally four. The manner of holding the three or four fingers is the same as where two are used, namely, the dorsal surfaces are together.

Usually the mother will feel a general uterine contraction when the dilating process has reached the stage of four fingers. If the mother does not complain too much, and is not too restless the anesthetic is not started till the cervix is fully dilated. But if necessary a little anesthetic may be given just at the time of dilating. I use chloroform in all cases.

When the internal os is fully dilated the patient is anesthetized, the bladder is emptied and the fundus is then pushed down firmly while the membranes are punctured.

The forceps are applied and the head is slowly pulled down on to the perineum. The cervix is not pulled up over the head by the contraction of the longitudinal muscle fibers in the body of the uterus, as in normal labor. Hence, it is necessary to push up the cervix over the head and be especially careful not to catch the anterior lip between the head and the symphysis.

When the head is down on the perineum and extension is ready to occur, the forceps should be removed and the anesthetic stopped. If two hours have elapsed since the strychnine sulph. was given, and if it seems necessary, another dose may be given.

In all forceps cases, unless there is some contra-indication, I remove the forceps and stop the anesthetic at this time, for two reasons. First, that the mother may fully resuscitate the child from the influence of the chloroform, and second, that the uterus may get into better tone and contract to force out its contents, thus helping to prevent post partum hemorrhage.

When the patient is completely out from the chloroform the fundus may be grasped and massaged so as to aid in stimulation of pains. When the pains are well established and the

perineum is ready to be stretched, the anesthetic is given and the head is delivered in the usual way, while the patient is fully anesthetized. After the birth of the babe the anesthetic is stopped. The fundus is massaged firmly so as to prevent hemorrhage. When the cord stops pulsating it is clamped in two places and cut between. The fundus is held firmly, but force is not applied to expel placenta till the mother is completely out of the anesthetic and until the uterus is contracting. The fundus should be held and gently massaged for two hours after delivery. The fundus should be examined and if necessary massaged every two hours for the first twelve after delivery, and longer if the fundus is not in good tone.

I have had 26 cases where I have induced labor before there were any labor pains. In these cases there was mortality of two children out of 27. The mothers all made uneventful recoveries.

There was not a case of post partum hemorrhage in the twenty-six, or any infection.

The time that has been required has varied from 53 minutes in a case of placenta previa to two hours and forty minutes in a case of twins.

In early rupture of the membranes, the physician should ascertain by careful examination the cause of the rupture and after remedying any malposition or removing any cause such as a distention of the bowels, he may greatly aid, in the progress of the labor, by this process of dilation, thus preventing the mother suffering pains of a dry labor.

In those cases which are met occasionally where the external os is back against the sacrum, and where the bag of waters has difficulty in penetrating through the cervix, the obstetrician can assist by pulling the os forward and dilating sufficiently so that the bag of waters can pass through and hold the cervix down as it dilates.

The suffering of the mother is much diminished, and if the obstetrician is careful the loss of life will be no more than in delivery in the ordinary manner. I believe that more cases will be taken care of in this manner as the obstetricians and laity become educated to it.

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J. W. Bourland, M.D.:

A case of unusual interest to me was one of **toxemia resulting in eclampsia, without albuminuria.** The patient,



a primipara, had complained more or less of headache during her pregnancy, but otherwise had apparently been in good health. Her labor, which was not unusual, occurred on Saturday. Her medical attendant stated that at times she complained of inability to see. This continued during the next day, and an eye specialist saw her in consultation and stated that he found no lesions in the eye. It seems to have been the conclusion that the blindness was hysterical. This continued on Monday and Tuesday. Otherwise, it was stated that no unusual symptoms arose. On Tuesday night she developed convulsions, passing into coma, which was the condition in which I saw her early Wednesday morning. At that time she was catheterized and fully twenty ounces of urine of fairly normal appearance was withdrawn. That evening she was again catheterized with about the same results. Evidently, then, she was excreting at least a normal amount of urine in twenty-four hours, even though she was in profound coma. The coma continued Wednesday, and late that afternoon I saw at least a pint of amber-colored urine withdrawn. I took a specimen of this and on examination found merely a trace of albumen. This specimen was withdrawn only a few hours before death. I regret that I could not have made a more extended examination of the urine, but the hour was late, the patient lived some distance in the country, and cystitis was evidently developing, making the urine unfit for preserving. The points of interest in this case are, first, the symptom of blindness without albuminuria occurring as the first symptom and its persistence; second, the lateness of the convulsions (developing three days after labor); third, the large quantity of urine excreted up to a few hours of death, and, lastly, the small amount of albumin.



Gilbert Fitz-Patrick, M.D.:

We take as a proved and accepted fact Bumm's statement that **puerperal fever** is wound fever, and wound fever is wound infection. Clinically the differentiation between septic infection and endometritis in the putrid form is practically impossible, especially since they are so often found in association in the same case. Hence, we believe that the treatment for the two forms should be practically the same, for such measures as control the septic state easily dispose of the putrid infection, and waiting twelve or twenty-four hours for a report

from the laboratory delays the institution of measures for relief; and these hours are exceedingly precious if we are to derive the greatest benefit from the treatment.

As we have practically an infected wound to deal with, in our judgment the treatment should be to remove as much of the infectious material as possible and to follow this with such antiseptics as seem best suited to destroy any particles that may be left. This can best be done by the use of a sharp curette and some form of mercury, either bichloride or iodide or a combination of equal parts of iodine and carbolic acid.

Given a case then where the patient has had a chill following confinement; the temperature has risen; and the diagnosis has been made. Breast and bowel conditions have been eliminated; also malaria has been ruled out. In the treatment chloroform or ether may be given, but as a rule deep narcosis is not necessary, and the anesthetic may just turn the balance against our patient. Hence, we usually give  $\frac{1}{4}$  of a grain of morphia hypodermatically one hour before the time set for operation, and about twenty minutes before beginning  $\frac{1}{8}$  to  $\frac{1}{4}$  more is to be given with about two or three ounces of whisky. Under this method of narcosis very little complaint is made, and the many dangers of ether or chloroform are avoided.

The patient should be placed upon a strong table, in a good light, in the lithotomy position. The vulva and the surrounding parts are shaved thoroughly and scrubbed with soap and water, followed by a strong solution of lysol, 1 per cent., or bichloride of mercury 1-1000. The vagina is filled with peroxide of hydrogen and allowed to remain so for three or four minutes, gently agitating. This is then washed away with the lysol solution. The vulva is now carefully treated by curetting any raw spots that may exist and touching them with the iodine and carbolic mixture. If stitches have been placed in the perineum and the parts have not united, they should be removed. The pseudo-membrane which is usually present on the raw surfaces should be curetted away, and the surface painted with iodized phenol, which is the iodine and carbolic mixture. This treatment is applied to any raw surface on the vulva, within the vagina, or involving the cervix. The cervix is now seized transversely with a double tenaculum midway between the external os and the attachment to the bladder, and the uterus drawn downward and steadied.

The curette, rather large and sharp, is carefully passed to the fundus, and is then carefully drawn down to the cervix and again passed to the fundus and so on. Every third or fourth time it should be withdrawn to see what has been brought away. The operation should proceed until the entire uterine cavity has been carefully scraped. The cornu and fundus should be gone over with a smaller curette to make sure that they are thoroughly cleansed. Then the cervix should be subjected to the same treatment.

Following the curettement the cavity of the uterus should be flushed with bichloride solution 1-2000, gently moving the intra-uterine point about until the solution returns clear. Then pieces of gauze wrung out of the bichloride solution are seized with the dressing forceps and the entire cavity gone over, rubbing up and down, left and right, all about until they come away clear of shreds or débris. The uterus and vagina are now packed with a 10 per cent. iodoform gauze, and a pad and a T-bandage are applied and the patient placed in bed in a modified Fowler's position. A continuous normal salt enema is ordered and a hypodermic of ergot given, or a suitable dose by mouth, which should be repeated every three or four hours for the first twelve or eighteen hours. The diet should be free and nutritious, such as eggnog, soups, beef juice, peptenoid and a peptone, oysters and milk, etc.

The gauze is removed in from 24 to 36 hours, and, if the temperature has reached normal, sterile vaginal douches with lysol one per cent. are given twice daily. If the temperature is still high, it may be wise to flush out the uterus with the bichloride and repack with iodoform gauze, or it may be necessary to do a second or third or more curettements.

What have we accomplished by this operation? We have made a clean wound, free from dead tissue and pseudo-membrane; we have removed or killed the bacteria within reach, and so have prevented the development and introduction of millions more into the blood vessels and the lymphatics. In short, we have removed the source of infection and placed upon the wound, whose lymphatics have been opened, an active antiseptic.



Lucy Waite, M.D.:

In no department of medicine or surgery has there been so much confusion in regard to the **significance of the clinical**

**manifestations of pathological conditions** as in the diseases having their origin in the female pelvis. False deductions based upon unproven premises have led to wrong methods of treatment. This state of things should force the profession to a realization of the necessity of special study along these lines.

My conclusions as the result of the study of three thousand recorded cases are as follows. The normal position of the uterus is one of passive mobility, and a non-metritic, freely movable uterus may lie in any position in an otherwise normal pelvis without producing symptoms.

Uterine deviations are pathological and can be correctly designated displacements only when the uterus is permanently fixed in any given position or its normal mobility compromised.

When retrodeviation of the uterus is found in any given case of pelvic disturbances, further investigation will reveal complications which have produced the symptoms.

Diagnosis of uterine positions cannot be made from symptoms.

Menorrhagia, chronic backache, constipation and pelvic pain are in no sense classical symptoms of retrodeviations of the uterus, being found in a large percentage of cases of ante-placed uteri and are due to complications regardless of the position of the uterus.

Dysmenorrhea, sterility and vesical irritation are not classical symptoms of antelexion as commonly taught, the dysmenorrhea and sterility being due to the accompanying myometritis, ovarian and oviductal irritation, to an accompanying cystitis, the bladder being involved in the general pelvic inflammation.

Many cases of dysmenorrhea are a pure neurosis, the accompanying flexion being only a coincidence, and gynecologists must extend their observations beyond the pelvis if they discover the true etiology of many symptoms which manifest themselves, most prominently it may be, in the pelvis.

The principal factor in the causation of fixation of the uterus is the peritoneal, perigenital adhesions. The uterus may be fixed also as regards the relative position of the body and cervix, by inflammation of its own tissues, myometritis.

The rational treatment in any given case is to treat the

complications which are in reality responsible for the symptoms, leaving the liberated uterus in its original state of anatomical and physiological mobility.

Fixation of the uterus by surgical intervention is therefore only substituting one pathological condition for another.



B. G. Thomas, M.D.:

Clearly the **treatment of an eclamptic case** lies mainly with the obstetrician. That of the nephritis of the earlier months of pregnancy, however, calls for immediate obstetric measures in but a few cases. Rest in bed, with medicinal, dietetic, and other measures precisely similar to those employed in other cases of acute or subacute nephritis, ameliorates the renal symptoms in many of the cases. The edema and the albuminuria may thereby almost disappear before the end of pregnancy is reached. The average patient of this kind does better when treated upon the same lines as a non-pregnant case than if obstetric measures for the termination of the pregnancy are recommended and adopted. If, however, the renal mischief increases instead of diminishing, as is sometimes the case, notwithstanding all medicinal treatment—particularly when the latter has not been adopted and insisted upon at the very beginning of the trouble—the case will probably require the assistance of an obstetrician before term, although the relief to the nephritis after an artificial termination of the pregnancy is not as a rule so rapid as it is after natural delivery.



G. B. Jackson, M.D.:

The subject of the active or curative **treatment of puerperal infection** is, I take it, one of the most confused and chaotic at present before the profession. In the nature of the condition there is little hope of an absolute decision upon the many and perplexing problems, especially those of surgical interference.

Fortunately, however, we do have some strict indications for therapeutic activity. The first of these is the removal or destruction of the attacking organisms at their points of entry, *i. e.*, a local cleansing of all wounds, or pus cavities, involved; the second a systemic support of the patient, including, of course, promotion of immunity.

The first indication is one for local treatment. Wounds of

the vulvo-vaginal regions, and cervix as well, are best treated by antiseptic applications—tincture of iodine, carbolic acid, bichlorid or others—and the stitches of perineal wounds should be removed for the treatment if the wound be unclean. The uterus must be emptied if its cavity is not already clean and free drainage obtained.

It is concerning the method best adapted to this end that the storm of dissension is greatest. Many adhere to the intra-uterine douche—advised by Fritsch—the finger first clearing away retained particles. By many the curette is universally used, followed by various cleansing and antiseptic treatments. Most authorities agree that whatever of these methods is applied, it must be done early to be of avail and is harmful and useless after the infection has penetrated through the uterine lining.

If the examination has revealed a smooth uterine cavity I believe the cleansing douche of several liters of sterile solution—salt, boric acid, or acetate of aluminum in very weak solutions—sufficient.

The argument of some workers that the uterine wound surface should be as thoroughly cleansed as the external wounds seems to me quite pertinent, but it is very doubtful if strong antiseptics will sterilize the cavity with only a short period of contact and long periods are dangerous. Therefore, if bichlorid douches, or others of the stronger solutions, are used, they should be followed by sterile water or salt solution flushing.

If, however, there be rough masses, the finger or the curette must remove them. I cannot see any harm in the use of the curette in experienced, careful hands, and I believe that the sharp instrument is the one of choice, being more effective and less dangerous than the dull form. If subinvolution is marked, the uterus very spacious, the recesses difficult to reach and its lining membranous, I believe the finger futile and the curette indicated—just as in superficial wounds. I make gonococcus infections and am inclined also to make streptococcus cases exceptions to this rule—believing that even the douche point may produce harm.

The first interference, whether douching alone or mechanical separation of contents followed by the douche, should be done

at the earliest possible moment and thoroughly once for all. A general or morphin and whiskey anesthesia—the latter is highly recommended—may be necessary for the curettage.

Various antiseptic gauze packs have been recommended, both for their local bactericidal action and drainage. The bactericide which will not injure living tissue has not yet been found, and local injury to tissue is the one thing we are attempting to avoid; nor do I believe that a gauze strip or pack will enhance drainage in this location.



O. E. Hunt, M.D.:

Above every other consideration, and before I speak of the direct treatment of **dysmenorrhea**, I would impress every reader who sees this with the utter immorality of the use of morphine in combating this symptom "**dysmenorrhea**." Under but one set of conditions, and one only, is the use of morphine justifiable, that is, when the dysmenorrhea has been demonstrated to be due to a gross pelvic lesion and the patient is under preparation for its removal by operation.

There is too a strange blindness preventing many doctors from recognizing the hysterical element in their female patients. I have as a consequence of this want of professional insight seen many poor creatures tattooed with the hypodermic needle and saddled with this accursed habit. Never give morphine for a protracted disease marked with paroxysms of pain not tending toward a fatal issue. For the young girl attention to hygiene, regulation of her exercise and schooling and, above all, rest in bed are invaluable in the treatment. Mild sedatives, hot tea and a full hot hip-bath, with the administration of aloes combined with myrrh or asafetida to empty the lower bowel, accentuate the pelvic congestion and so assist in bringing on the flow.

I need not dwell here upon such well-recognized facts as the necessity of treating chlorosis, rheumatism and other associated ailments when they exist. We should be wary, in beginning what is commonly called "**local treatment**" in young women; it is rarely of value and once begun is apt to be kept up indefinitely. If, however, the dysmenorrhea is persistent and excessive in the young girl, we shall not delay but insist upon a thorough examination under anesthesia per rectum and

abdomen; remembering the maxim of the ancients: "*Magnum est crimen perrumpere virginis hymen.*"

Where serious pelvic disease exists we should treat this and so relieve the dysmenorrhea. If the existing disease threatens life or is incompatible with fair health, and there is no prospect of relief by waiting, we will without hesitation act in the patient's best interest by removing tubes, ovaries or uterus to effect a cure. In less aggravated conditions, our judgment will be tested in weighing the pros and cons relative to an operative procedure; where the tubes are sealed and ovaries are bound down, we will have less hesitation in interfering and anticipating the menopause. When dysmenorrhea persists and no local lesion is discoverable a thorough dilatation of the os uteri is often of service. I would estimate the utility of this procedure about as follows: Seventy per cent. are benefited for a time; about forty per cent. are benefited permanently, and about ten per cent. are cured.

The best results are obtained in cases which are distinctly spasmodic in character.

As a last resort, it is right in rare instances where the patient is not neurotic, and occasionally in spite of this complication, to remove ovaries and tubes for painful menstruation, which is wrecking health, even though the pelvic organs are known to be absolutely free from disease.

Finally in recapitulation, almost without exception all those cases of pelvic inflammatory diseases which will later fall into specialists' hands are to-day under treatment by general practitioners for "dysmenorrhea."

A careful examination under anesthesia per rectum and abdomen, if necessary drawing the uterus down with tractors at the same time, and making what I call a "trimanual examination," will reveal the cause of the dysmenorrhea.

The practitioner must not fail to recognize and classify separately the purely hysterical cases, in whom local treatment of any kind is positively injurious. He must, however, in this very group of cases be most wary, recollecting that hysterical women are as equally liable as other women to have pelvic inflammatory ailments.

Morphine must never be employed in treating dysmenorrhea.

Dysmenorrhea depending upon tumors and inflammatory



troubles must be relieved by treating the disease and not the symptom.

Dilatation and curetting benefit a large percentage of cases which are uncomplicated by other diseases and even cure a small percentage.

Ablation of the appendages is proper in rare cases of extreme and persistent dysmenorrhea as well as for some intractable cases of membranous dysmenorrhea.

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G. B. Twitchell, M.D.:

In making a digital examination during labor it is often found that the os is very high up against the sacrum, so high, indeed, that it is impossible to reach it unless the woman turns on her side away from the examiner. Almost all, if not all, of these cases will be found by external palpation to be **occipito-posteriors**. If with this position of the os we find that dilatation is very slow and the membranes ruptured, a positive diagnosis can be made without any other examination. Of course, such a condition does not tell us whether the position be a left or a right one. However, the frequency of this condition would lead us to believe that posterior positions are quite common.

Recognizing, then, the frequency of posterior positions, we must admit that the great majority rotate without any help or particular management on the part of the obstetrician. Those that do not rotate readily are those in which the progress of the head (always slower in posterior positions) is not fast enough to reach the perineum while it is still in good condition. The reason for the slow descent of the head is often the rupture of the membranes before dilatation has taken place. While in anterior positions it might be right to allow the head to act as a dilator, it is never right to wait so long in posterior positions. Artificial dilatation must be used. In my experience the most efficient dilator is the Champetier de Ribes balloon. Objections have been raised to it on the ground that it is not aseptic. This depends, however, entirely on the operator. Naturally, its use does wipe away some of the valuable vaginal lubricant, but this loss is small compared to what would occur during the long wait for a spontaneous dilatation. In some cases other means of dilatation—manual, etc.

—may have to be used, but the important indication is for dilatation to be obtained so that forceps can be used to bring the head down upon the perineum. Normal rotation on the pelvic floor followed by normal extension means that the head is early brought upon a normal perineum.



H. A. Miller, M.D.:

**Tuberculosis** which first manifests itself during pregnancy, and which uniformly grows worse as pregnancy advances, is a class of cases for which I especially solicit attention, in order that a disease otherwise curable shall not be allowed to bring the prospective mother to an early death on account of her desire to do her full duty as a wife and mother.

While the ideal would be an ante-nuptial examination for latent lesions, a pre-tubercular state, or even a tubercular predisposition, we appreciate its impracticability as long as it is repulsive to prevailing public sentiment.

Next to the prophylactic measure would be a physical examination before pregnancy. If at that time we considered the patient in the pre-tubercular state, it would be our duty as physicians to so advise the patient and positively prohibit pregnancy until all danger seemed to have passed. Unfortunately, however, even this is not always possible, and we are frequently consulted after the infection is firmly implanted in a pregnant woman, which is equivalent to an infection at a time when the individual resistance is lowered, plus the continued debilitating influence of pregnancy.

At present no general rules can be laid down regarding the methods of treatment in all pregnant women with tuberculosis as a complication. In our study of available statistics, while by no means complete, still we are justified in considering the following as demonstrated truths:

1. The percentage of tuberculosis in pregnancy is little, if any, above the average of the community at large, and we can only reconcile this with the well-known fact that healed tubercular lesions can be demonstrated on the post-mortem table in a large percentage of cases by concluding that healed tubercular lesions are relatively harmless.

2. Where an active lesion exists or first appears during pregnancy, the progress of the disease has been shown to be rapid and the results disappointing, even when the most ap-

proved hygienic and dietetic conditions were available and rigidly carried out. In tubercular patients not pregnant, early discovery and energetic treatment of the disease now meets with uniformly good results.

These facts can only be reconciled by believing that the pregnant woman is unable to generate within herself sufficient quantity of that unknown something to successfully resist a tubercular invasion. If this be true, non-interference is justified only when the tubercular lesion has existed for some time, and is limited to a small area, non-febrile, the general condition of the patient good, with a constantly increasing weight, unless the case is first seen after the maternal condition is hopeless and a few weeks will be productive of a viable child.

Interference is not only justifiable, but urgently demanded:

1. In all cases prior to the twentieth week, as soon as a diagnosis is made, if a febrile process exists with a high temperature and a rapid decline, if not properly controlled by proper hygienic and dietetic treatment rigidly enforced.

2. In all cases where the primary lesion first appears prior to the twentieth week of pregnancy.

3. In all cases prior to the twentieth week when more than one lobe is involved and the disease is extensive enough to be alarming under any circumstances.

4. When the disease is complicated by grave hyperemesis, disease of the heart, kidney, or intestinal tract.

In cases where the indications above noted are present and interruption of pregnancy has been decided upon, a method of emptying the uterus should be selected which will be productive of the least exhaustion and shock possible. The method used by the author has usually been the introduction of a soft catheter into the uterus, where it is allowed to remain until the uterine contractions are produced. After this a more rapid method of dilating the cervix is used, selecting either water-bag or some of the many forms of instrumental dilators, depending on the amount of dilatation necessary and the rigidity of the cervix. In no instance should labor be protracted beyond the minimum amount of time necessary for successful delivery, with due regard to injury of the maternal parts.

According to available statistics, in regard to the infantile

mortality of children born at or near full term, of women with active tubercular lesions, 8 per cent. are still-born, 20 per cent. are weak and delicate, 64 per cent. were of average weight, 8 per cent. were slightly above average weight, 92 per cent. of the living lost weight the first three weeks of life, and over 50 per cent. of the living at birth died within the first year, giving us an infantile mortality of over 60 per cent.

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M. D. Delaney, M.D.:

In these days when so much is written regarding one of the most serious complications arising during pregnancy, **treatment of placenta previa**, one is liable to become confused and wonder what form of treatment is really most appropriate.

I pass over cases where an early diagnosis is possible, but if we discover for the first time during labor, a case of placenta previa, the proper course to pursue, after cleansing the parts thoroughly, is to pack the vagina tightly with sterile gauze, which has been soaked in some antiseptic solution.

If after one or two hours the hemorrhage continues, and makes its appearance through the gauze, it should be withdrawn, and the patient anesthetized by an assistant.

When under anesthesia, it is possible to sweep the finger around the edge of the placenta and separate it from the uterus. Some advise tearing through the center of the placenta, but it is far better to go to the side, and this can be done with a little patience. The patient will bleed more by tearing through the center of the placenta than by detaching one side from the uterus. After the separation, perform bi-polar version—rupture the sac and deliver the child.

The vast majority of cases of placenta previa are of the marginal and lateral variety. The proper course to pursue in these cases is to pack the vagina tightly with sterile gauze, as in the other two varieties, withdraw the gauze in one or two hours, and if the cervix is sufficiently dilated, rupture the sac and allow the presenting part to press on the bleeding surface.

It does not matter in the marginal and lateral varieties, whether the presenting part is the vertex or the breech; just as soon as the presenting part becomes impacted the hemorrhage will cease.

If the vertex is presenting, just as soon as the cervix is

sufficiently dilated apply forceps and deliver. If it be the breech, bring down a foot and make traction from time to time until able to deliver.

The introduction of Voorhees' bag, when the process is slow or there is considerable hemorrhage, aids greatly, provided the membranes are intact and we have one at hand, which is not often the case with a physician who has so many things to carry, and is liable to be caught several miles in the country without any assistance whatever: hence he must use the fetus to produce the pressure, which other mechanical devices would supply if at hand.

The danger of post-partum hemorrhage in these cases must not be overlooked. It happens more often after cases of placenta previa than any other class of cases. This is one class of cases where ergot is not contraindicated during delivery. I know its physiological action, and the conditions that are liable to occur to the uterine muscles. In these cases it seems to produce a beneficial effect and gets the uterus under better control, if administered during delivery, with less chance of post-partum hemorrhage.

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W. H. Gilbert, M.D.:

It is hard to diagnose the extent of **traumatic lesions of the abdomen of a non-penetrating character**. Sometimes hemorrhages and other injuries of so dangerous a nature occur that we are surprised to find so little symptomatic evidence of same immediately after the accident.

I desire to report two cases bearing directly on this subject. One was a case of non-penetrating wound of the abdomen, in which after eighteen hours of comparative safety to the patient, there was a collapse. A diagnosis of rupture of the liver with hemorrhage was made. The injury was the result of a violent blow struck over the region of the liver by the shaft of a buggy drawn by a runaway horse. Upon opening the abdomen, the upper right quadrant was found full of blood, and there existed a rupture in the liver about three inches in length. The clotted blood was cleared away, and an effort made to control hemorrhage by packing the liver with gauze. This was not successful. Suturing the liver transversely across the laceration was attempted, but failed because of the suture cutting through the liver substance. I then determined upon resorting to a

technique I had read of, which consisted of the passing of a long needle through the substance of the liver parallel to the laceration, coming out at a point about an inch above the superior angle of the laceration. The needle was again inserted and passed downward parallel to the laceration through the liver substance, coming out along the inferior border of the liver in the neighborhood of the gall-bladder. The ends of this suture were tied, and the edges of the laceration were partially approximated. A complete approximation was attained by inserting three transverse sutures, which entered the liver substance behind the previously introduced parallel sutures, and when tied made its traction upon the parallel sutures and not directly upon the liver substance. This brought the liver substance together, and with the exception of some bleeding along the line of the suture, hemorrhage was completely controlled. Chromatized catgut was the material used. The point in this case hard to understand, considering the extent and gravity of the traumatism, is why there was not more hemorrhage from the liver in the beginning, and why did it take eighteen hours for collapse to occur.

The other case I desire to report was that of a man having been injured by being thrown against the stump of a tree. I saw him nearly three months after the injury occurred. He gave a history of having suffered intense pain for several days over the site of the contusion in the epigastric region. Three weeks after the injury occurred he commenced suffering intense pain in this region, with an elevation of temperature ranging as high as  $104^{\circ}$ . This continued until I first saw him. He was suffering greatly from dyspnea. His temperature ranged from  $102^{\circ}$  to  $104^{\circ}$ , with marked dullness all over left lung. He coughed incessantly, and expectorated matter was very offensive. An exploratory puncture of the left thoracic cavity was made, and when the needle was withdrawn it contained an offensive, dark-colored fluid. A diagnosis of empyema was made, and a resection of two of the ribs followed. The left pleural cavity was filled with fecal matter to such an extent as to cause almost total collapse of the left lung. Investigation revealed an opening through the diaphragm and a connection established between the thoracic cavity and one of the intestines. A splanchnic abscess had formed, which had ruptured through the diaphragm into the left pleural cavity and had at

the same time opened into one of the intestines. During the formation of this abscess there had been extensive peritonitis, and large deposits of plastic lymph around the site of the injury had completely walled off the opening into the intestine and prevented a fatal general peritonitis. The case is remarkable because of the part nature played in saving the life of the patient before surgical interference could be resorted to in order to effect a cure. As the matter now stands, he has an opening through the diaphragm into the left pleural cavity through which there is a constant discharge of fecal matter. I am in hopes at some future date to close up the opening in the diaphragm. This, of course, is an extremely hazardous procedure, and will only be attempted after sufficient time has been given nature to close up the opening.

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## Book Reviews.

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**A TEXT-BOOK OF SURGICAL ANATOMY.** By WILLIAM FRANCIS CAMPBELL, M.D., Professor of Anatomy at the Long Island College Hospital. Octavo, 675 pages, 319 original illustrations. W. B. Saunders Co., Philadelphia and London. 1908.

The author adds the "anatomic mind" to the "aseptic conscience" as equally essential to the makeup of a good surgeon. Admitting the dryness of anatomic facts if they are isolated, the writer attempts to translate them into clinical values and clothes them thus with interest by giving them practical bearing and directing the mind to the problems with which they are associated. While he has not written a work on anatomy nor one on surgery, the manner of presentation of the subject is original and student and practitioner alike will be grateful for the helpful and pleasing combination which will make anatomy easier and more attractive and at the same time teach much that is valuable in surgery.

**PRINCIPLES AND PRACTICE OF GYNECOLOGY.** By E. C. DUDLEY, A.M., M.D., Professor of Gynecology, Northwestern Medical School. Gynecologist St. Luke's and Wesley Hospitals, Chicago. Fifth edition, revised and enlarged, with 431 illustrations and 20 full-page plates in colors. Lea & Febiger, Philadelphia and New York. 1908.

There has been much revision and addition of new matter in this fifth edition of Dudley's Gynecology which increases its usefulness and brings the subject matter to the best standard of latest thought in this department. Dudley stands for specialism in gynecology rather than against the general

surgeon, and his work is written for those who wish to treat diseases of women from that standpoint, consequently he neglects not the little things, and completes the subject by careful attention to detail. To his mind the gynecologist has an increasing number of scientific problems to solve, consequent upon the increased strain of modern life which brings about its exaggerated pathology in the organs of women. Among the many commendable features particular attention might be called to the chapters dealing with Displacement of the Uterus, Tumors and Cysts of the Ovaries and Tubes, and the very excellent and beautifully illustrated ones on Tumors of the Uterus and Their Treatment.

**ADENOMYOMA OF THE UTERUS.** By THOMAS S. CULLEN, M.B., Associate Professor of Gynecology in Johns Hopkins University. Large octavo of 270 pages, with illustrations by Herman Becker and August Horn. W. B. Saunders Co., Philadelphia and London. 1908.

Some years ago Professor Cullen at the instance of Professor William H. Welch made a careful examination of a uniformly enlarged uterus which had been removed and found that the size was due to a diffuse thickness on its anterior wall. Examination of sections showed a diffuse myomatous tumor in the uterine wall, and that the uterine mucosa at many points flowed into the diffuse myomatous tissue or was surrounded entirely about it in such a way as to form islands of mucosa. A few months later another case was discovered, and inspection of all material for this condition lead to the finding of over ninety cases of what he terms Adenomyomata. These cases with the history of the patient, symptoms, description of operation, gross and histological appearance are incorporated in a beautifully illustrated treatise. Great effort has been made not only to determine the development of the growth, but how they may be recognized clinically, which latter fact is of great importance, for relief based on the histology and pathology must be surgical. Prompt recognition of this form of growth is of the utmost importance to the patient, and Dr. Cullen in his usually scientific, though very practical way, has placed the subject clearly before the profession.

**AMERICAN PRACTICE OF SURGERY (Vol. 4).** A complete system of the science and art of surgery, by representative surgeons of the United States and Canada. Edited by JOSEPH D. BRYANT, M.D., LL.D., and ALBERT H. BUCK, M.D. Profusely illustrated, complete in eight volumes. William Wood & Co., New York. 1908.

Volume four of this system maintains the same general excellence as was noted in the previous volumes. The text is from the pens of able contributors, and the paper and illustrations all that high class workmanship and artistic endeavor can provide. About one hundred pages are devoted to a well-



illustrated article on Dislocations. Under the caption of Operative Surgery, much valuable information is given about the preparation of patient and operating room, after care of operative cases, and a full exposition of the subject of anesthesia, both general and local. The chapters on Minor and Plastic Surgery are particularly interesting; so also the timely contribution on Infantile Paralysis and its surgical treatment. There are a multitude of features, new and old, presented in a very attractive manner, which will be very profitable reading to the surgeon.

**THE PANCREAS, ITS SURGERY AND PATHOLOGY** By A. W. MAYO ROBSON, D.Sc., F.R.C.S. (Eng.) and P. J. CAMMIDGE, M.B., D.P.H. (Camb.). Illustrated. W. B. Saunders Co., Philadelphia and London. 1908.

The increase of knowledge made possible by operations in abdominal surgery has served more than any other thing to develop our knowledge of the physiology, pathology, and surgery of the pancreas. Antiseptic surgery and an improved technique in animal experiments too have lifted the pancreas from an accessory digestive gland to the rank of a structure absolutely essential for the metabolic needs of the organism. Robson and Cammidge, the former well known in this country for his work on Gall Bladder and Bile Ducts, have written a work which is a distinct contribution to an understanding of the function, pathology, and surgery of this structure. A careful study of the chapters on symptomatology and diagnosis will throw a tremendous light, not only on the recognition of the pancreas as the seat of disease, but in a large number of cases will furnish sufficient information to diagnose the nature of the lesion. Cammidge's "pancreatic reaction" by the improved method is thoroughly discussed, and tables are given which indicate the result in determining pancreatic diseases by its use. This is by far the most extensive work and represents about all of the available knowledge on the subject.

**BIER'S HYPEREMIC TREATMENT IN SURGERY, MEDICINE AND ALL THE SPECIALTIES: A Manual of its Practical Application.** By WILLY MEYER, M.D., Professor of Surgery at the New York Post-Graduate Medical School and Hospital; and Professor DR. VICTOR SCHMIEDEN, Assistant to Professor Bier at Berlin University, Germany. Octavo of 209 pages, illustrated. W. B. Saunders Co., Philadelphia and London. 1908.

The splendid results which have followed the intelligent application of the principles underlying Bier's Hyperemic treatment, and the simplicity of the technique necessary for its successful application, have made it a most welcome addition to our list of valuable procedures. Practical experience has placed it out of the stage of experimentation, and its wider scope of usefulness and more extensive application to

the treatment of conditions medical and surgical are evidenced by the constantly increasing reports in the current journals. Meyer, who has had a large experience with the treatment, and Von Schmieden, Bier's own assistant, certainly men most happily chosen, have written a clear, concise work on the subject, which thoroughly and completely presents the treatment, its place, and the technique for its successful application, intelligently before the merest tyro in medicine. The manual is well illustrated, and will undoubtedly receive a well-deserved popularity.

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## Translations.

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**Acute Circumscribed Edema of the Periosteum.**—Max Herz (*Zentralbl. f. inn. Med.*, March 21, 1908) describes under the name "angio-neurotic pseudo-periostitis" a form of acute circumscribed edema, which, but for its evanescent character and tendency to relapse, closely simulates periostitis. The bones affected in the writer's cases were invariably constituents of the thorax, and the patients without exception were the subjects of some cardiac neurosis. The swellings always occurred in the area in which the subjective cardiac symptoms were most pronounced, and usually during an acute exacerbation.

The affection has not been previously described, but is not common.

Case 1. A neurotic woman, aged twenty-six, had attacks of cardiac pain and palpitation with dyspnea. There was no organic disease. When the writer saw her there was a tender, hard, doughy swelling at the sternal end of the left fifth rib. During a cardiac attack this swelling was said to be the seat of the most severe pain. A year previously it had been mistaken by a well-known surgeon for costal caries, mainly because there had been fatal cases of tuberculosis in the family. An operation was refused on the ground that the swelling occasionally disappeared completely. Though four years have since elapsed no operation has been required.

Case 2. A woman, aged forty-two, had attacks of cardiac palpitation, dyspnea, and precordial oppression of such severity that she had kept her bed for months. Some years before the writer saw her aneurism of the aorta was diagnosed, and iodides had been taken uninterruptedly. The heart was normal, and the diagnosis of aneurism at first appeared inexplicable. But when an examination was made during a cardiac attack a tumor was found of the size of an apple. This was situated to the right of the sternum over the second and third

ribs and intervening space, and was tender and apparently exceedingly painful. The heart was acting tumultuously, and the violent pulsations were communicated to the tumor. The swelling rapidly subsided under hot fomentations, and the cardiac neurosis was finally cured by suggestion. There had been no relapse three years later.

Case 3. A woman, aged forty-five, had advanced exophthalmic goiter, with severe anginal attacks. The pain was localized, not in the heart itself, but in the upper part of the sternum, which was said to swell during each attack. When the writer saw her the pulse was irregular and uncountable. The entire sternal region was swollen, tender, and of a hard, doughy consistency. The surface temperature of the swelling was considerably higher than that of the surrounding skin. Leiter's tubes, through which hot water circulated, were applied, and the pain was relieved.

Case 4. A male morphinomaniac, aged forty-three, had attacks of paroxysmal tachycardia in which the sternum became swollen exactly as in the previous case. The only treatment required for these periosteal swellings is the application of heat.

**Treatment of the Umbilical Cord.**—In introducing the subject of the division of the umbilical cord and the subsequent treatment of the stump, F. Ahlfeld states that formerly one would not have considered it worth while delivering a clinical lecture on such a simple procedure (*Deut. med. Woch.*). It was never thought that it was possible that a child could die as a result of errors in the management of the cord. In a book published about one hundred years ago, Ziermann stated that most of the "earthly" as well as "supernatural" ills which befell mankind were due to the premature division of the child from its mother. This book was written on the basis of the doctrine of animal magnetism.

Inquiring into the question of the time at which the umbilical cord should be divided, Ahlfeld considers that it really does not matter, since the placenta usually is detached from its uterine connection as the fetus is born, and therefore no further interchange between the maternal and fetal circulation can take place. The idea, that the child should have the benefit of the reserve blood, which is still contained in the placenta at the moment of birth, may be admitted, and he therefore comes to the conclusion that the cord should be divided a few minutes after birth, provided that the child cries well. When there is a suspicious discharge from the maternal genitals, the child should not be allowed to remain between the mother's thighs, but should be removed at once. In cases of apparently dead fetus, one should not await the cry, but should remove the child as soon as possible and apply artificial respiration away from the bed.

It is a mistake to wait for the cord to cease pulsating, as this may continue for a very long time, and the mere fact of pulsation does not indicate a gain in blood to the child. Next he questions the site where the cord should be ligatured. He considers it advisable always to apply a double ligature. He thinks that one should divide the cord close to the child, but, inasmuch as he advises a second ligature and at times a third, he advises that the cord should be sufficiently long to admit of this. He ties the cord about four inches from the child, and divides it close to the ligature temporarily. The material should be tape, about 1-2 cm. wide, which should be kept in cresol soap solution. This renders it slippery enough to allow one to tie it tightly. The scissors, too, must be thoroughly disinfected, and should be blunt-pointed. They are to be held in the palm of the hand to prevent the child suddenly thrusting its hands in the way as the cord is being cut through. After a short time the first ligature may become loose on account of evaporation of the gelatinous material. After about an hour and a half the cord should be examined and religatured and dressed.

Since infection through the divided umbilical cord or the umbilicus can be highly dangerous, he proceeds in the following manner, in order to safeguard against such an infection: The cord is retied and divided as close as can conveniently be done to the body as soon as the child has been bathed. The hands must be well disinfected beforehand. Then he washes the stump and the surrounding skin with spirits of wine and covers the stump up with aseptic wool. This is held in place by means of a linen bandage. The child is not again bathed until the stump has separated and the parts are healed. The old method of daily dressing in highly doubtful linen is not safe. The bandage or even some of the wool can be replaced with clean material if either gets soiled, but the wool adhering to the umbilicus must not be removed.

If by any chance the lower part of the dressing gets loose, it is necessary again to disinfect with spirit. In the majority of children treated in this way the cord is cast off on the eighth day. It does not harm the child in any way that the separation takes a little longer by this method than by the older methods. Nor does the child suffer at all by being deprived of its daily bath during the first week of life. He shows that the results obtained by the method are extremely satisfactory, and recommends it as a safe means of preventing umbilical infection.

**Congenital Stenosis of the Vagina.**—Dartigues and Caravan (La Clin.) have treated a case of almost complete stenosis of the vagina complicated by the symptoms of hematocolpos and pyocolpos. The patient consulted them for sterility and severe pains during her last periods. She was thirty-seven years of age, her menstrual periods had been regular since their

onset at fifteen years. she always had some pain, and a very small flow, lasting two days only. On the last two occasions before consultation she suffered acute abdominal pain passing down the thighs, which was relieved when her doctor made a vaginal examination. On each occasion the examination was followed by a flow of blood, which was normal in appearance. The patient had never had any vaginal trouble or any douches or local applications.

On examination it was found that about 7 cm. from the vulva the vagina became narrow and cone-shaped, the tissues were soft and non-indurated, but firm pressure on the apex of the cone was painful. There was a small opening through which a probe, rather less than 1 mm. in diameter, could be passed up for a further 2 cm. As the patient had an objection to allowing an operation, it was decided to try gradual dilatation of the stricture. An extremely small-sized tent was passed through the orifice; owing to the way in which it swelled above the constriction its removal proved difficult and painful. There was an escape of blood and pus after the removal of the first two or three tents. A series of tents, of gradually increasing sizes, were inserted, and as dilatation advanced, groups of them tied together were used, with the final result that the constriction was almost completely obliterated. The patient was discharged from the hospital after thirty-six days. There was then only a very slight circular fold indicating the situation of the stricture, and the fornices could be easily examined. The cervix was normal and could be reached without difficulty.

Two years later she had had no return of the trouble; her periods had been regular and painless, but she had not had any children. In such cases there is either complete or partial retention of the menses, with pain and constitutional disturbance, or a history of difficulty in connection or of sterility. It is considered advisable to try dilatation before proceeding to operative treatment. The method of excision should be used only for acquired strictures of cicatricial origin, in which the whole thickness of the vaginal wall is involved. Congenital cases demand simple incision; the use of the cautery is not recommended, as the wounds heal very slowly. When stenosis is recognized in a pregnant patient early intervention is liable to cause abortion, and it is wiser to wait until labor has begun before taking active measures. After labor has begun the patient cannot be left, as the stricture may be ruptured and cause serious hemorrhage; it may also delay labor and call for prompt division. Many practitioners use curved scissors for this purpose. Occasionally it is necessary to incise more than one stricture.

**Omental Cyst Removed per Vaginam.**—Holleman (Zentralbl. f. Gynäk.) was consulted by a girl aged nineteen for

pains in the left side of the abdomen gradually growing worse. She was well nourished and healthy and the periods were regular; the pains had lasted for about two years and a half, and were independent of the catamenia. A firm, elastic, and very tender tumor could be defined to the left of the uterus; it was not very movable. The pain caused when it was touched resembled, the patient declared, the pains from which she had suffered for over two years, and the left ovary could not be felt. The tumor was therefore diagnosed as a small ovarian cyst adherent to the pelvic wall, and a vaginal operation was performed. When Douglas's pouch was opened the tumor was seen to be a dark-colored cyst. Some adhesions were separated, but as it was too big to be extracted entire through the pelvis it was punctured and a brown, thick fluid escaped. Then the flaccid cyst was with ease drawn down to the vulval orifice. Its pedicle was found to be the omentum and no other structure besides omentum. Ligature of the pedicle was easily effected and the omentum reduced; lastly the vaginal wall was closed, but a gauze drain was inserted into the middle of the wound and withdrawn four days later. Four years later the patient was in good health. Hollemann adds references to cases previously published.

**Spina Bifida.**—Buccheri (Archiv. di Ortoped.) since 1901 has treated 21 cases of spina bifida, and operated 19 times. In each a radical closure of the opening was attempted. The ages varied from 2 days to 3 years, the majority being under 40 days. The females preponderated over the males (12 to 9). Two of the cases were pure meningoceles, 18 myelo-cystoceles, and 1 myelo-meningocele. *Cæteris paribus*, the author recommends operation in every case of spina bifida, and the earlier the better; the chief contraindication is the possibility or onset of acute hydrocephalus or the coexistence of other grave deformities. Ulceration of the tumor is not a contraindication (4 of the author's cases were ulcerated, yet 3 of these were cured). Of the author's 21 cases (19 operations), only 3 died as a more or less direct result of the operation: 1 from broncho-pneumonia, sixteen days after operation; 1, age 5 days, from meningitis three days after; and 1, aged 3 years, from shock fifteen days after). The mean duration of treatment was ten days, and 11 of the cases healed by first intention. The patients remained well, as far as they were seen in later years. The results of treatment by injection are not better than these.

**Extrauterine Pregnancy.**—Orthmann discusses the question whether tubal pregnancies in the early months should be operated on vaginally or abdominally (Deut. med. Woch.). First he approaches the question of operative versus expectant treatment. He has little doubt that every one will agree with

him that after interruption of the tubal pregnancy one should operate at once. A few French obstetricians appear to take a different view of this, but as a rule one may say that this indication holds good in all clinics. When the diagnosis of intact pregnancy in the early months can be made, a question of employing an expectant attitude may be considered. It is, however, rare to get the patients in this condition; among 100 operations he has met with this only five times. After rupture of the sac operation is required when a hematocele forms, and especially if this increases. When no hematocele is detectable, some observers consider that one should await developments. It is, however, extremely difficult to be sure that the pregnancy has come to a standstill after either abortion or rupture. He cites a case in illustration.

In order to form definite opinions of the best method of procedure he analyzes the statistics of various clinics and compares his own. In a table he shows the results gained in eight clinics by abdominal operation and by various vaginal operations; 423 out of 532 patients were operated on through the abdominal wall, and 29 died. Only 3 of the vaginal operation cases ended fatally. The next table deals with 17 clinics. The comparative result of expectant and operative treatment is shown: 1,176 were subjected to abdominal operations, with 95 deaths; 134 were subjected to vaginal celiotomy, with 7 deaths; while 770 were treated expectantly, with 5 deaths. It thus appears that the total mortality of operated cases is 7 per cent., the mortality of abdominal celiotomy is 8 per cent., that of vaginal celiotomy is 5 per cent., that of vaginal incision 3 per cent., and that of total extirpation 8 per cent.

The claims made for abdominal operation as against vaginal are: First, the operations are technically easier. This he considers is no reason for choosing this method, since technical difficulties can be overcome by experience. In his own cases he was only compelled to give up the vaginal method and complete the operation from the abdomen once out of fifty-seven times. This case was one of a large tumor, the tubal pregnancy being still intact, and at the end of the third month. Secondly, the abdominal method is said to give a better survey of the field of operation. In reply to this, he finds that he has always been able to obtain a sufficiently good command over the parts in anterior vaginal celiotomy. Thirdly, it is claimed that hemorrhage can be more readily dealt with through the abdomen, but this is not the author's experience. He says that the vaginal method admits of a very rapid access to the tube, and, further, that shock action is absent in these operations, while, as is freely recognized, it is profound in most abdominal operations. It is just as easy to deal with other affections of the uterus and appendages by the vaginal method as by the abdominal, and in several cases he dealt with coexisting affections of other organs

while operating on the tubal pregnancy. A great advantage is the absence of hernia after recovery. His own cases number 228. Of these, 128 were treated expectantly without a death, 100 were operated on, 38 operations were performed through the abdominal wall, and 5 patients died. He performed anterior colpo-celiotomy 57 times, and lost one patient; in 4 cases he incised the vagina, and in another single case he removed the whole uterus. Neither of these patients died. He is therefore an ardent supporter of the anterior vaginal operation, and claims that up to the end of the third month one obtains very good results from it. He further states that the ultimate condition of the vaginally-operated patients is better than that of the abdominal operation patients. One does the patient less harm by operating through the vagina, and at the same time one can help the patient just as quickly and surely by this method as by the abdominal method.

**Pregnancy Complicated by Uterine Fibroma.**—Hardouin (Archiv. Gén. de Chir.) publishes the case of a woman affected with a fibroma of the uterus, who in the fourth month of pregnancy presented grave symptoms, necessitating immediate intervention. From a study based on this report, of the whole question of the course to be pursued in cases of pregnancy complicated with uterine fibroma, the following conclusions are drawn: In cases in which there are not any alarming symptoms, there is no necessity, as a rule, for intervention. In a large majority of the instances of this complication pregnancy reaches its normal term without presenting any serious incident. If, however, there be reason to believe that the fibroma from its situation is likely to cause serious difficulties in delivery, myomectomy should be performed. In the presence of alarming symptoms caused by retention of the fetus, the nature of the indicated intervention would depend on several factors.

If the fetus be not viable three courses have to be considered: Abortion, abdominal hysterectomy, myomectomy. The first of these, it is stated, is rejected as being more dangerous than any possible radical operation. Hysterectomy, in the author's opinion, should also be rejected, for though an easy, rapid, and fairly safe operation, it sacrifices the fetus and suppresses the functional capacity of the mother. Myomectomy, though a more complicated procedure than hysterectomy, is regarded as the method of election in cases of both pedunculated and sessile fibromata. This, it is stated, has given excellent results in regard to both mother and infant. Abortion after this operation may result from the operative traumatism, but in most instances is due to peritoneal infection. If in cases in which the fetus is at or near its term indications for intervention occur, abdominal hysterectomy should be performed. If during labor it be found that the passage of the fetus is effectually pre-



vented by the tumor and this cannot be pushed upwards and out of the way, Cæsarean section should be practiced. This in most cases, however, will be found the first stage of a supra-vaginal hysterectomy

**Uretero-Vesical Neostomy.**—Paul Lutaud (Arch. Gén. de Méd.) in describing Ricard's new method of uretero-vesical neostomy in the treatment of uretero-vaginal and uretero-cervical fistulæ, has published an exhaustive consideration of the operation of fixing the ureter to an artificial opening in the bladder, with its late results. His article of 104 pages is divided into five parts, comprising: (1) The treatment of fistula of the ureter before uretero-vesical neostomy. (2) The experimental phase of the operation. (3) Various methods: (a) With sutures; (b) with anastomotic buttons; (c) Ricard's. (4) Indications, namely: (a) In uretero-vaginal fistulæ—details of 48 cases given; (b) in uretero-cervical fistulæ—11 cases; (c) in surgical wounds of the ureter—20 cases; (d) after intentional resection of the ureter in cancer operations—19 cases; (e) in some other conditions. (5) Late results. Ricard's method is given in detail, and it is illustrated by several clear diagrams.

There are five steps in the operation—namely: (1) Median laparotomy, and search for ureter after incision of preureteral peritoneum. (2) Liberation of ureter, its section, and turning up of its mucous membrane. The ureter is divided just above the fistula, or a little higher, if it is seen to be easy to connect it with the bladder. The vesical end is disregarded. The mucous membrane is turned up like a coat sleeve, and it is then fixed to the adventitia by two firm catgut sutures. (3) Opening of the bladder and passage of about 2 cm. of the ureter into this. No sound or forceps is passed into the bladder, which is opened with a bistoury for about 2 cm., the mucous opening only being just big enough to admit the ureter. The turned-up end of the ureter is thus free in the vesical cavity, like the clapper of a bell. (4) Circular interrupted vesico-ureteral sutures of catgut. These take all the coats of the bladder and ureter except the mucous membrane. Another circle of sutures is placed about 1 to 1 1-2 cm. higher up the ureter. (5) Fixation of the bladder to the pelvic peritoneum, at such a point near enough to the rows of sutures as shall bring the bladder in front of the ureter and relax the latter. This is done with one thick catgut suture. Drainage by india-rubber tube.

The points in favor of Ricard's method are as follows: It is rapid; once the ureter is freed, the operation lasts only a few minutes. No special instrument is required. It is applicable to all cases, whether secondary to preceding operations, or due to ureteral wounds, or even when divided in the course of extirpation of a cancerous uterus. The turning up of the mucous

membrane insures the immediate permeability of the ureter. The length of ureter introduced into the bladder prevents a possible stenosis through retraction of the duct. The fixation of the bladder to the peritoneum prevents dragging on the sutures. The non-passage of sound or catheter into bladder or ureter obviates any so-called infection or irritability. Of Ricard's two cases, in one permeability was perfect at the end of six months; at a year it was absent; later the ureter was found not to function constantly. In the other case the result was excellent at the end of six months.

The author concludes by saying that ureterovesical neostomy is quite a benign operation; that it assures the cure of ureteral fistulæ; that in wounds of the ureter it is the intervention of choice; that in cases of advanced uterine cancer, however, it is to be rejected. The functional results, at a distance, are doubtful in the immense majority of cases, a state of things that can only be explained by a secondary lesion of the walls of the duct, by stenosis from connective tissue, or by slight ureteritis. for, in the majority of cases, these patients are well, and nothing attracts attention either on the side of the kidney or on that of the bladder. Lutaud considers that ureterovesical neostomy is certainly the only treatment applicable to uretero-uterine fistulæ, and the nephrectomy or ligature of the ureter should only be practiced when this has failed.

**Fatal Intraperitoneal Hemorrhage from a Fibroid.**—Stein (Monatsschr. f. Geb. u. Gyn.) reports a very characteristic case. The patient was forty-nine, the mother of three children. She was seized with symptoms of acute internal hemorrhage, and the peritoneum clearly contained much fluid. A tumor of the size of a small fist was detected on the right hand of the uterus. There was much delay in getting the patient into the Heidelberg gynecological clinique, so that she was not admitted until nearly twenty-four hours after the onset of the symptoms. There was no hemorrhage from the os externum; the mass on the right of the uterus was rather soft and sausage-shaped, so that ruptured tubal sac seemed possible. Abdominal section was performed, and a couple of subserous fibroids were detected attached to the right cornu of the uterus, the one superimposed on the other. They were very soft, and their capsule contained dilated veins. A large hole, 3 to 4. mm. wide, was found in one of these veins. Subtotal hysterectomy was performed. The patient died forty hours after the operation from repeated intraperitoneal hemorrhage, the source of which could not be found out, although the abdominal aorta was injected with water to throw light on that point. Emphysema, with bronchitis, myocarditis, perisplenitis, and perihepatitis, were discovered at the post-mortem examination.

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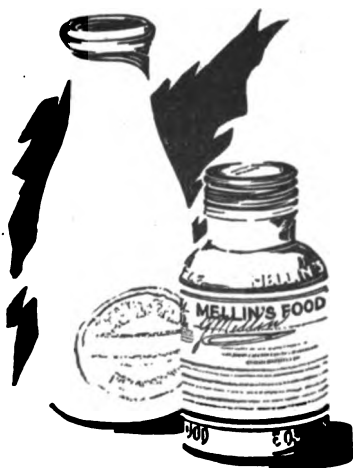
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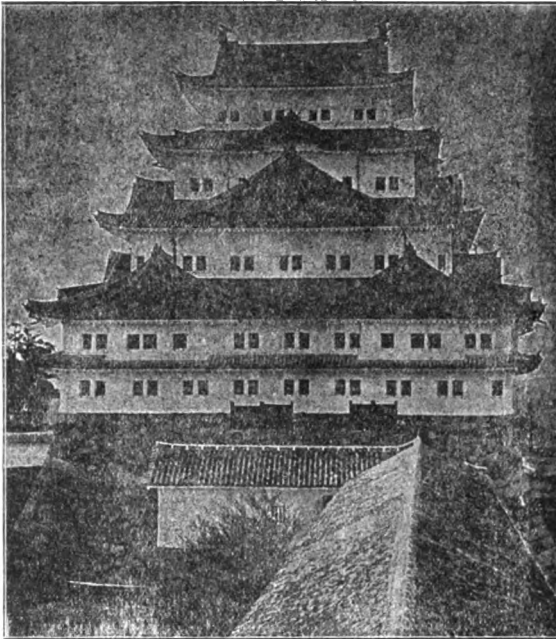
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